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# Design

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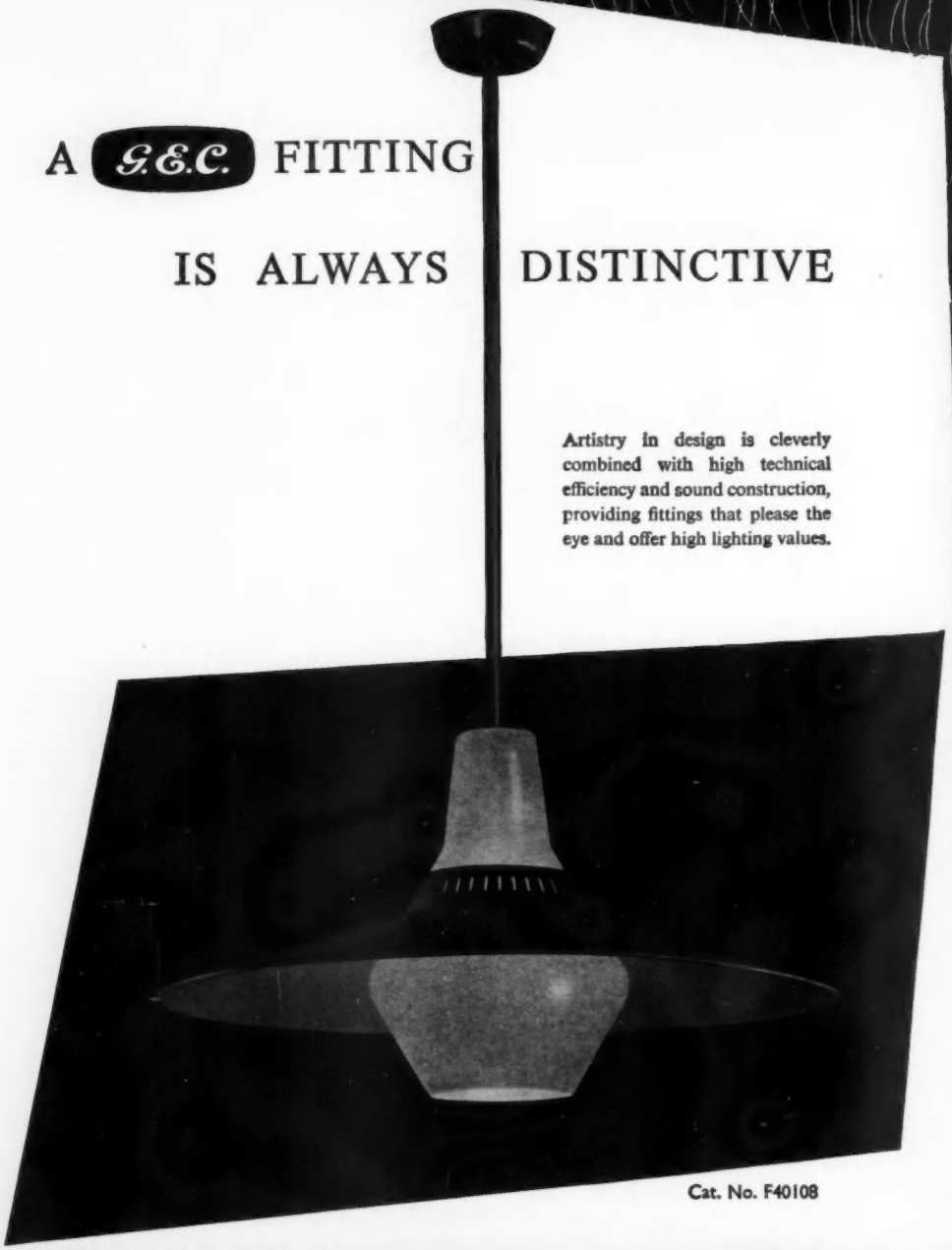

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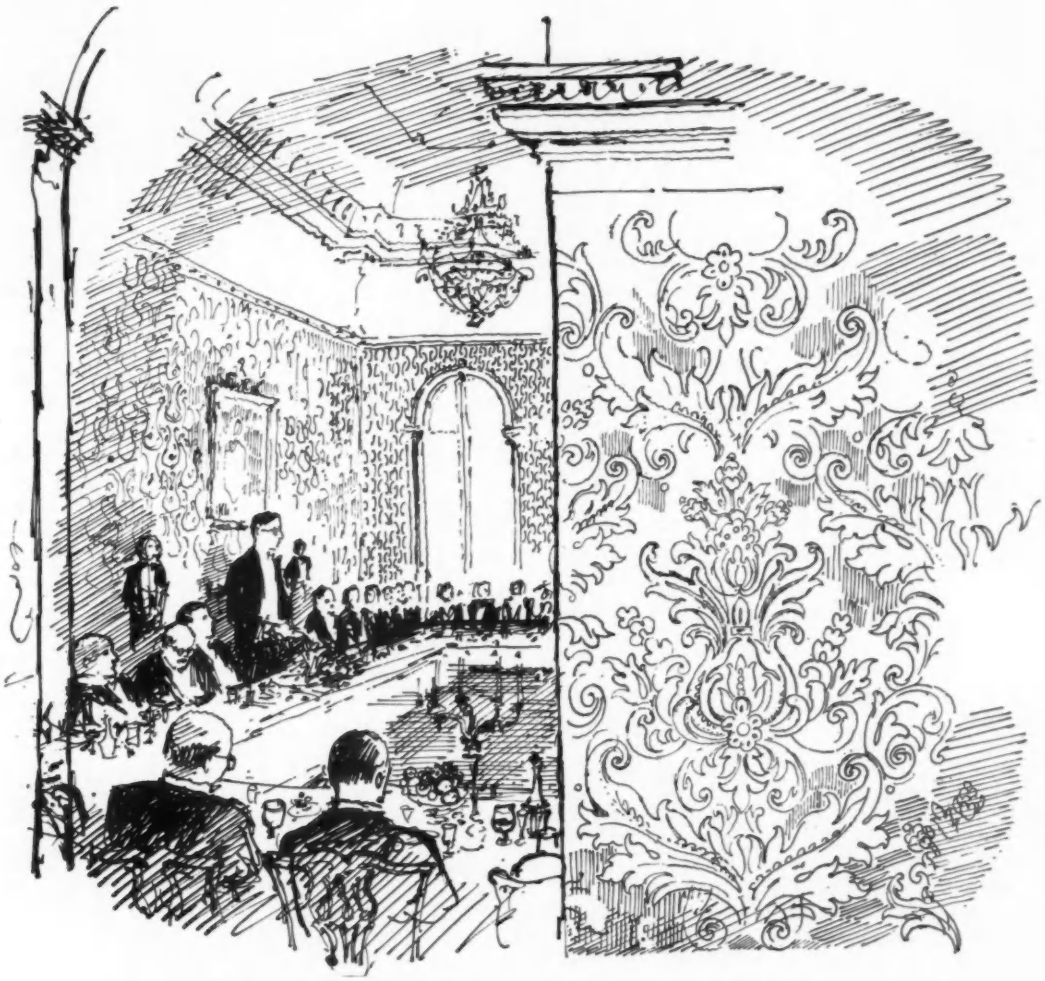

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**with Norman-French far distant,**
**and artistry close to hand.**
**Knows a lot about glass.**
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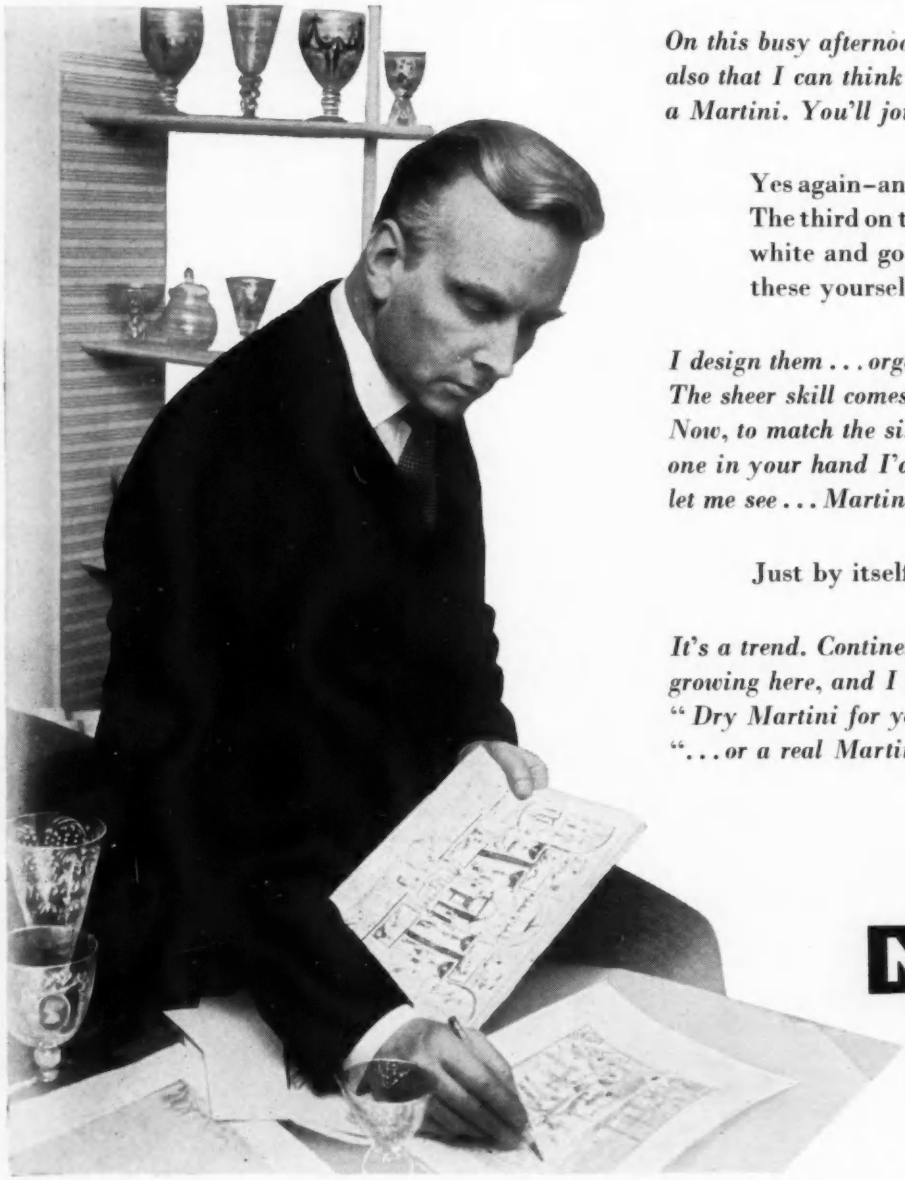


Good day to you, Henry. Busy?

*On this busy afternoon? The answer is yes . . .*
*also that I can think of nothing nicer than*
*a Martini. You'll join me?*

Yes again–and choose my own glass as well!
The third on the left, over there . . . with the
white and gold tracery. Do you do
these yourself? They're most beautiful.

*I design them . . . organise them . . . market them . . .*
*The sheer skill comes from my craftsmen.*
*Now, to match the size and the shape of the*
*one in your hand I'd suggest . . .*
*let me see . . . Martini, straight, dry, cool!*

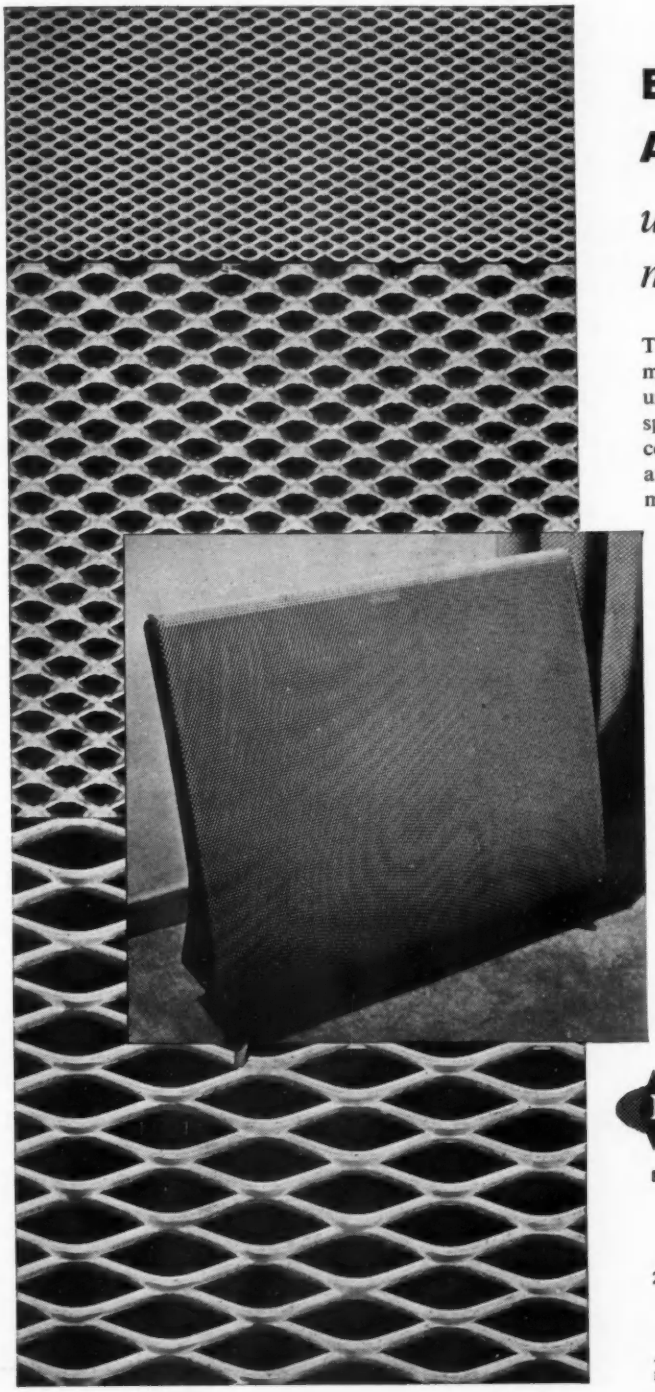
Just by itself? That's thought reading.

*It's a trend. Continental, no doubt. But it's*
*growing here, and I met it a lot in America.*
*"Dry Martini for you?" they'd say,*
*". . . or a real Martini Dry, Lord Audley?"*

**Better drink**

**MARTINI**

**Sweet or Dry**



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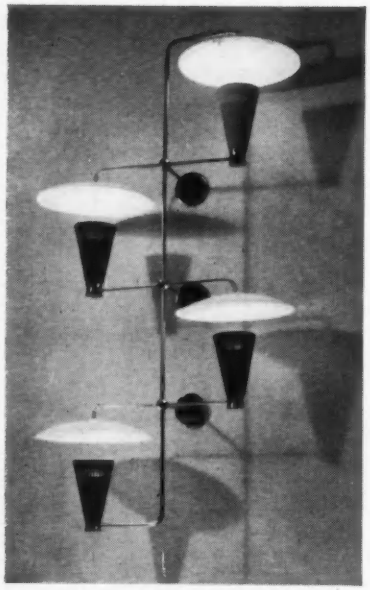

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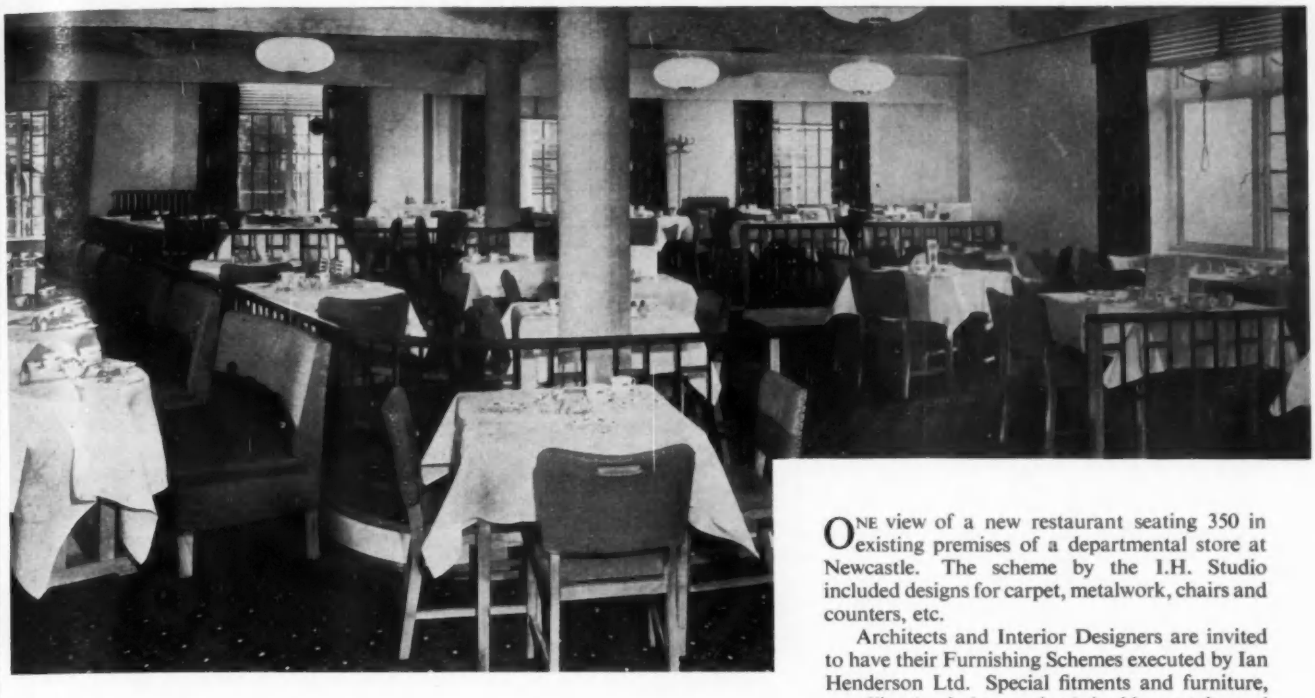

ONE view of a new restaurant seating 350 in existing premises of a departmental store at Newcastle. The scheme by the I.H. Studio included designs for carpet, metalwork, chairs and counters, etc.

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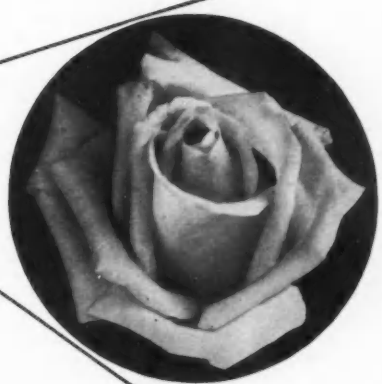

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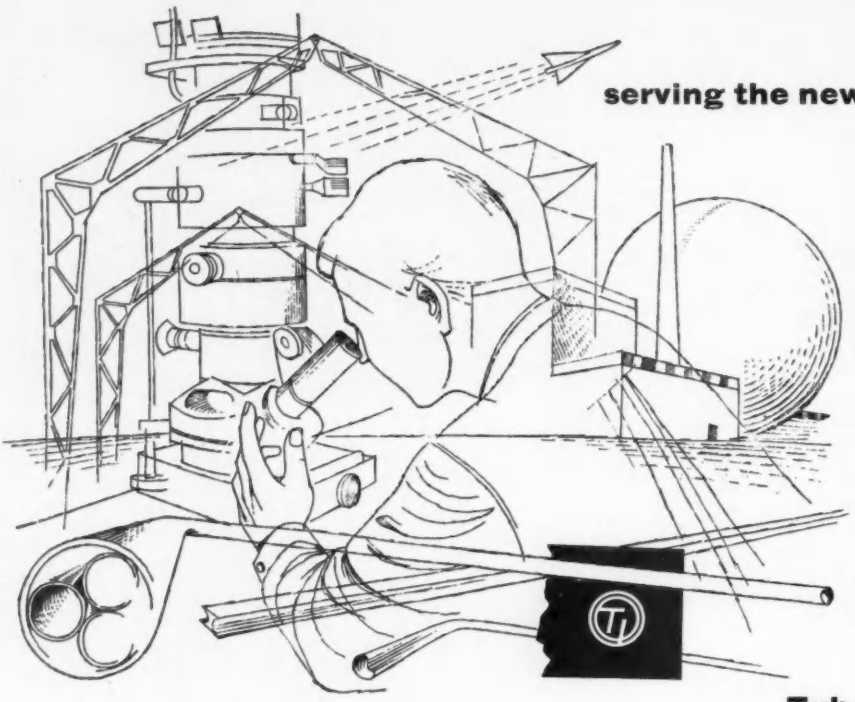

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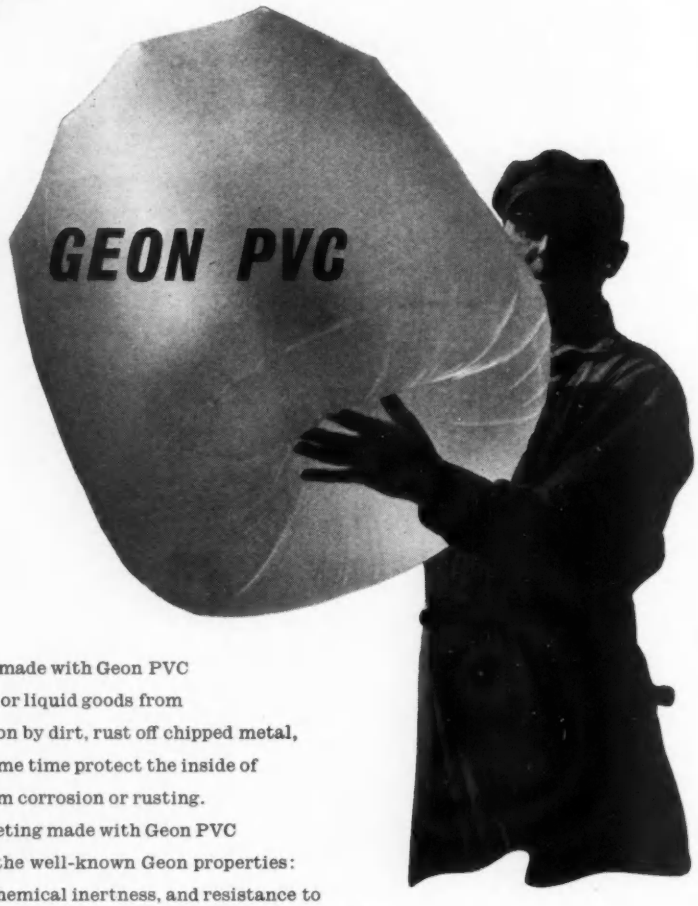

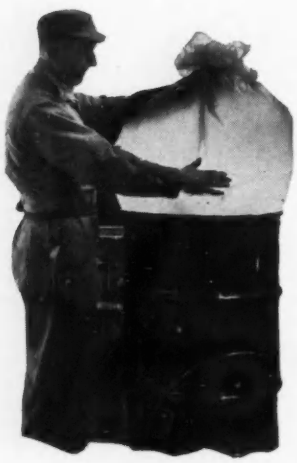

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February 1957

# Design

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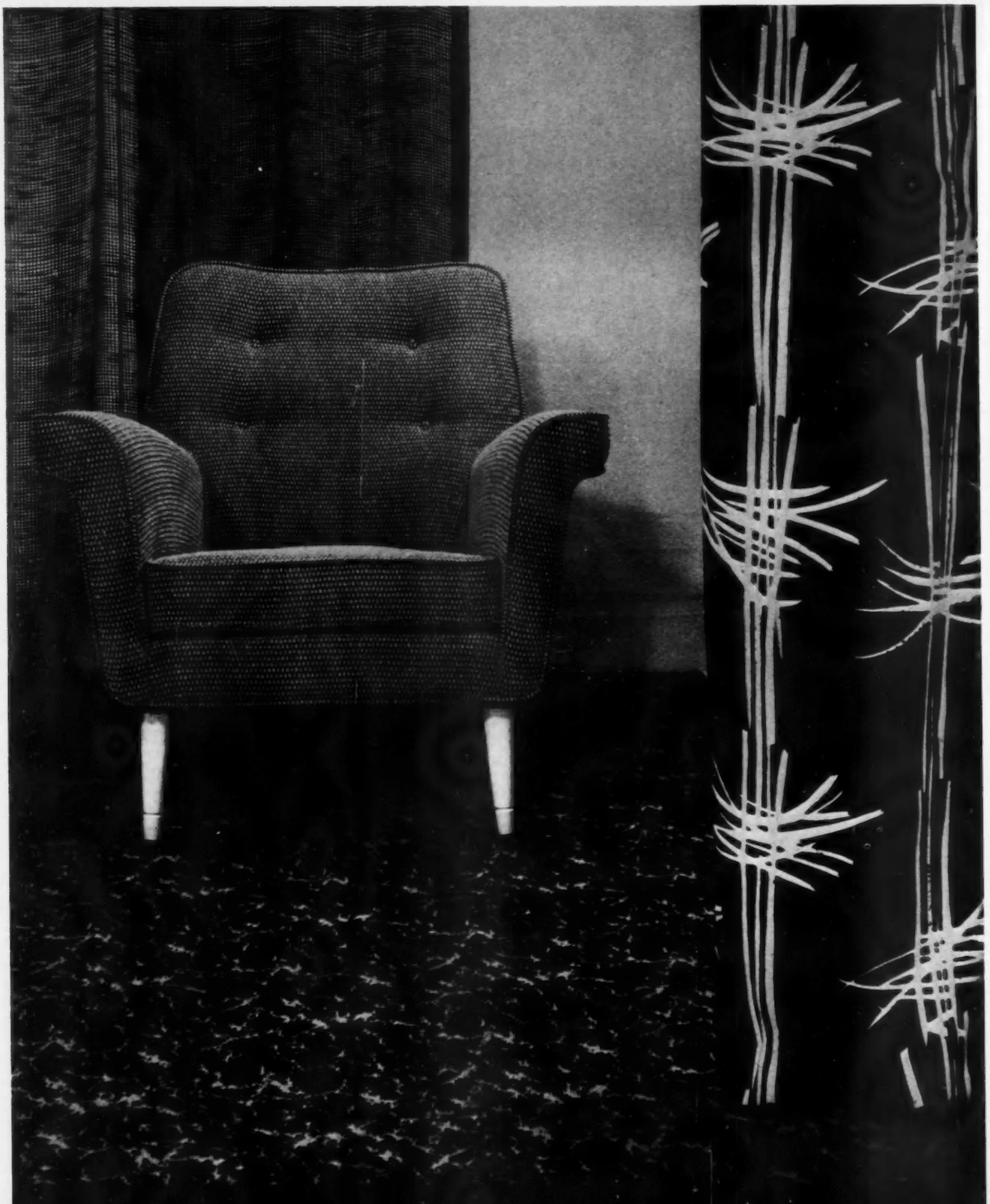


Chair model 424 designed by N. K. Hislop. The legs are in Sycamore finish and it is upholstered in a new Tibor Deep Texture "Seville" in Natural colouring. Produced by Gimson & Slater Ltd., Walton Street, Long Eaton.

The "Cortina" carpet is designed in the Mediterranean mood by Tibor Reich, F.S.I.A. for the Equerry (Regd.) range of Wilton filling. This attractive carpet is available in shades of tropical Turquoise/Black and Azalia Red/Black. Produced by S. J. Stockwell & Co. (Carpets) Ltd., 16, Grafton Street, London, W.1.

"Niza"—Tibor's latest Textureprint on slub satin-faced cotton in exciting new colour combinations. This curtain fabric is one out of the range of four new designs which are designed to blend with Stockwell carpets and Tibor Deep textured upholstery fabrics. Produced by Tibor Ltd., Stratford-on-Avon.

**VESPER** *stockwell* **TIBOR**

# The common market

THOSE WHO TREMBLE at the thought of free trade, even if it is restricted to six European powers, may take some comfort from the general feeling that we cannot afford to keep out of the arrangements which Europe is making for the removal of tariff barriers. Although the effect would be cushioned by an agreement to reduce duties gradually over 10 years, the Prime Minister, when Chancellor of the Exchequer, was quite frank about the issue. The results would depend on the ability of industry to manufacture products of a suitable type and design, in good time and at acceptable prices. To those firms who have a suspicion that the design of their products may be out of key with modern needs, these proposals may seem cheerless, even rash. But those who acknowledge that the industrial world will become more and more competitive, will be stimulated by the opportunities of this larger market, which might one day measure up to the great home market which sustains the United States and which may ultimately develop in the USSR.

Inevitably those industries which are less able to compete will suffer contraction, and some firms will even be squeezed out. But the casualty list is unlikely to include many of those who have made it their business to know what other European industries are up to, and particularly how such countries as Germany have made rapid strides in design and production. The new Karmann-Ghia Volkswagen, which has already caused quite a stir, is a reminder that we should constantly examine our products in terms of quality and changing requirements. To be out of touch with the spirit of the times in an area of free trade is to court economic disaster. Events of the past few years have shown the lively and increasingly discriminating attitude of the consumer, a trend which has caught some manufacturers and shopkeepers napping. If the common market develops, then British firms will have to keep their ears much closer to the ground.

The impression that British industry is too aloof to take part in trade fairs abroad and that when it does is not sufficiently interested to show its best, will not help us to compete in this common market. Nor will it help us if we underestimate the importance of design in winning the lion's share. Designing is not a problem which can be tackled overnight. With the prospect of a free trade area developing within a few years, now is the time to start.

# Pointers

**The creative act**

R. Furneaux Jordan, the architectural critic, gave designers something to think about when he delivered the annual SIA Oration recently. Not only did he insist that inspiration – the creative act – is missing in much contemporary designing, but he had to take his audience into the realms of literary criticism to explain what he meant. Here is one of Mr Jordan's samples of 'inspiration' in the flesh:

'. . . . . The tide of pomp

That beats upon the high shore of this world, . . .'

"What", he asked, "has befallen those four common nouns, one common verb and one common adjective? First a triumphant survival, a retention of prestige when each was tried, as it were, for its life, in the pitiless just court of a supreme artist seeking the perfect means to his end.

"One can imagine Shakespeare writing such a passage in the form of one of his full-blown similies, and then slaughtering a dozen lines and reconcentrating all their sum value in the 13 words left – to the mysterious enchantment of these, as if, like primitive man in his own imagination, they had taken unto themselves the virtues of the rivals whom they had killed and devoured."

The havoc wrought by similar annihilations in any design studio are well known – for it is often the managing director who eliminates the alternative solutions to a problem and the designer who is left to sweep up the bits. That state of affairs cannot be expected to change, though it could be less wasteful if more designers took a hint from Shakespeare and slaughtered a bit more on their own account. As their orator explained: "The creative act is not an intellectual process. It is a subjective, instinctive or emotional process, based on an intellectual substructure of knowledge and experience. The process, as a process, is easily analysed: DATA – INSPIRATION – EXECUTION, or alternatively, programme – creative act – technique." We are concerned too much with the first term and the last; the middle term "has escaped us – the missing *tertium quid* of the design process. . . . . The complexities of an industrial and urban society have forced us into an obsession with data, with the functional programme, while a constant stream of technical information has led to an over-estimation of the third term, almost to the delusion that good technique could be equated with good design."

**Mind that poster**

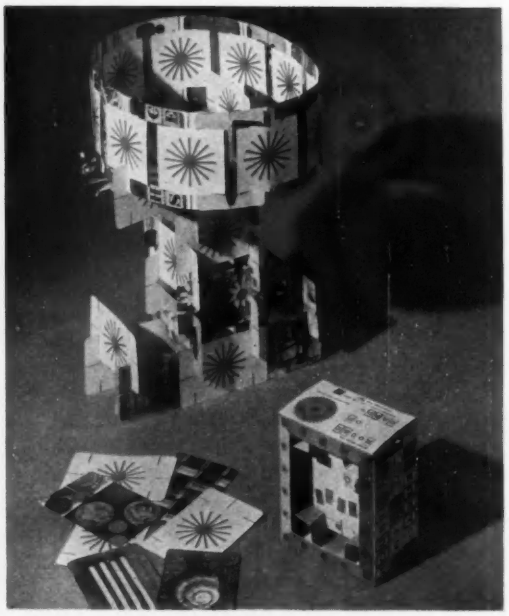
The Minister of Transport achieved good results with his 'Mind that Child' campaign. Forty-one fewer children were killed and over 700 fewer injured on the roads in the three months of the campaign than in the same period the previous year. But, if Mr Watkinson was pleased, he did agree that the matter could not be left in a state of self-satisfied inertia: 41 fewer deaths every three months, and so on. Apart from all the preventive measures he has reinforced, there is the question of design. As we pointed out in our issue for August 1955, good money is being wasted on bad designs for posters badly sited. Do the multitudinous commissioning authorities up and down the country – including the Royal Society for the Prevention of Accidents – realise that good design costs no more than bad, and is a great deal more effective – both at the point-of-sale and at the point-of-death?

**Design to play with**

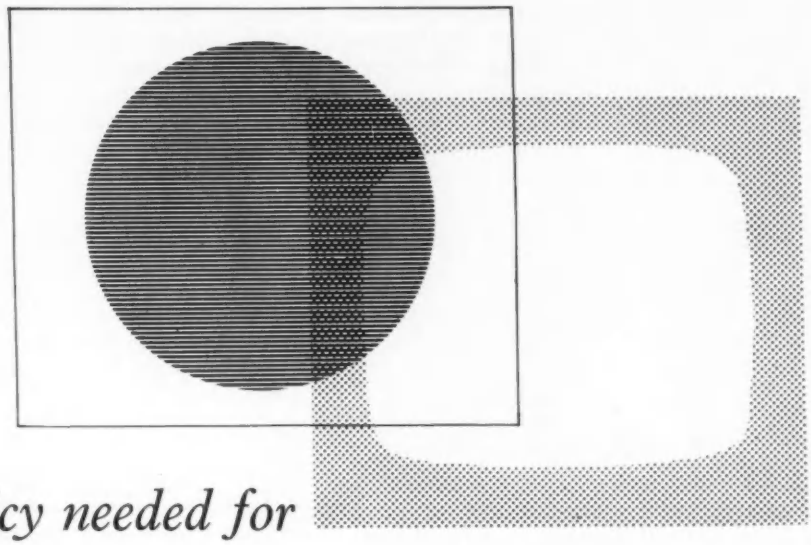
Where are the creative designers for British toys? Their work – what there is of it – will be found at the 'British Toy Fair', which opens at Brighton on February 25; the designers themselves may not be in these islands at all. We are very good at plain constructional toys and scale models of the latest car or teddybear, but we can show little work which required imagination before it was born.

The toy manufacturer has a hard job, for he has to please adults as well; a toy that is right for the child must also excite the adult directly and suit his idea of the nursery world. Perhaps the pack should do most of the selling, in the manner achieved by the 'House of Cards' shown here, which *must* be sold before it is opened. This building toy was designed by Charles Eames for an American firm and is now made under licence in this country. Here, the toy is put together in such a delightful way that it seems a shame to unpack it and play with it. The pack invites curiosity, describes the contents, and forms a rich display for a highly decorative gift.

With our rich talents in the graphic arts Britain might well surpass this American toy. If the designers were found would our manufacturers give them full support?



The cards are notched and interlock so that the ordinarily difficult technique of building card houses becomes easy and flexible. *'House of Cards'*. DESIGNER Charles Eames. MAKER Summit Games Ltd. 10*s* 6*d*.



*a design policy needed for*

# RADIO AND TV CABINETS

JACK STAFFORD

YOU AND I BELIEVE that good design can be good business, otherwise we would not read this magazine. This belief may be shaken considerably by a visit to the annual 'Radio Show'. Here we can see – and vigorously demonstrated – that bad cabinet design can be good business too. It is particularly dismaying to find the consumer faced with a wide choice of good and bad cabinets at each price level; all of them apparently selling equally well.

I do not believe that this is inevitable in a big industry, nor where there is stiff competition; both these conditions are true of brewing, and yet the design standards of beer advertising are extremely high. The parallel is not outlandish, for radio cabinets and beer advertising are both considered to be vitally important in selling the products; both constitute their industries' visual approach to the public. Could it be that beer advertising is the work of designers allowed to use their creative faculties?

The radio industry is a big industry. It sold about one million radios, over 200,000 radiograms and 1,4000,000 television sets on the home market last year, and does a very considerable export business; the total of radios and radiograms exported amounted to about 320,000.* I visited factories or interviewed executives of six firms, which form a reasonable cross-section of the industry: one large, two medium and two small firms – all divisions of organisations making a range of electrical equipment – and one medium sized independent. All these firms make a full range of sets – portables, table models, small and large radiograms and television sets.

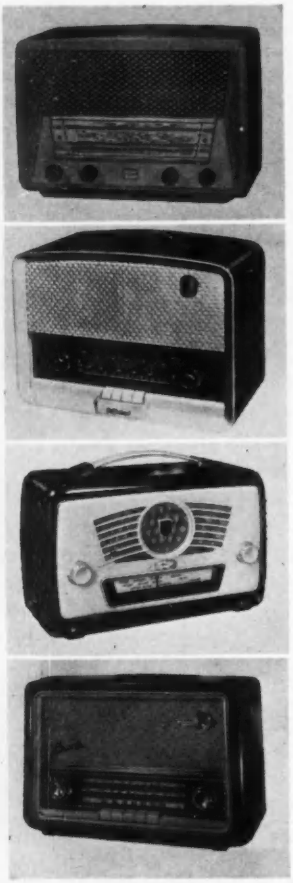
In any industry, the attitude of management towards design policy is all-important. Here, the present attitude developed during the rapid expansion of the industry in its early years. When wireless first started manufacturers were making a technical instrument for use by a small group of expert amateurs, whose knowledge was somewhat comparable with their own. With the opening of the 2LO broadcasting station in 1922, a public arose whose main interest was not in wireless, but in being entertained. This strange domestic instrument had to be tamed so that it could be dusted, cleaned and moved; above all it had to be *used* safely and without undue skill. It became a piece of furniture. As the inside grew incomprehensible so the cabinet began to sell the set, and naturally the sales manager became more interested in the cabinet.

In these formative years the technical side was growing at an enormous pace, and the concentration of most manufacturers on more efficient and less expensive receivers has given this section of the industry a creative drive that is largely lacking in the design of cabinets. With a new product it was often the newest that sold the best, and salesmen demanded an increasing number of 'new' sets. Eventually this meant that each firm introduced a complete range of new cabinet designs yearly, though several of the cabinets would merely be variations around a single chassis. Inevitably the general design standard fell and copying became more prevalent.

This situation has split the function of design con-

* Figures based on sales during the first 10 months of 1956.

**Radio and TV cabinets**



Dark veneers, brassy glitter, jelly mould forms, vulgar decoration - typical cabinets from a large section of the British radio industry.

ceived as an overall management policy. Technical design is seen as a function of research and production engineering, cabinet design as a function of sales. There is little realisation of the cabinet designer, whether staff or consultant, as an equal member of a team whose job has an importance parallel to the other designers. His skill is as exacting and precise, his training should be as thorough, his status as high, and he needs similar facilities for research into new methods and materials.

In one firm I visited, cabinet design is the perogative of the managing director, in another the sales director is in charge, while in a third a skilled design team suffered some unnecessary interference from the sales manager. Another firm – an extreme case – developed its cabinets directly by discussion with the cabinet maker, no drawings even being made.

Murphy, which has the highest standards of cabinet design, runs a design team in which electrical, mechanical and cabinet designers are all responsible to one head of design and research. Although this man is naturally subject to all the normal influences from sales and financial sources, he can meet each particular problem with an all-round team solution. This admirable system runs on the closest possible co-operation with Murphy's dealer organisation, and the job of 'selling' new designs to these dealers is taken very seriously. It is not irrelevant that Murphy advertising is also dealer-conscious. I could only find the word 'dealer' once in the 1956 'Radio Show' catalogue; it was in the Murphy advertisement which was wholly planned to get the public into the local Murphy dealer.

**Confusion at point-of-sale**

Although regarded by manufacturer and public as pieces of furniture, the majority of radio and television sets are distributed as electrical appliances. Dealers are carefully chosen for their technical competence, but they are usually ignorant of modern trends in furniture design. Many of them are still at the 'artistic' stage – good design is either mock wrought iron brackets, rustic candelabra, imitation coal fires with built-in flicker, or jazz modern chromium, orange glass with etched lines and 'streamline' shapes. The retailer apparently likes plenty of detail on display. The traditional solidity of dark veneers glittered up with brass and 'piano keys' derived from the current Continental style is very well received. The piano keys are a sound psychological touch; a bit of art, a hint of creative talent and status combined like the piano in the front parlour, and right up to the minute by saving one second in ten once an evening.

The tendency of the industry to copy cabinet designs is reinforced by the dealer system. As most dealers want to sell what they see other dealers selling, their stock request is for the same thing a bit cheaper and a bit more impressive; anything with a creative, individual cabinet design is regarded with suspicion. The vast majority of consumers get their sets through these dealers. They are buying a piece of furniture surrounded by razors, hair dryers, refrigerators, imitation coal fires, plaster wax dripping from plastic chandeliers, electric irons, torches and cycle lamps. Most people will get fuddled by this welter of bad or irrelevant design. Their discrimination between good and bad designs might be fostered if they could choose radios among good furniture. Under the present system they instinctively tend to choose something that can compete with the gleam.

**Management leadership required**

A cautious approach towards cabinet design is very marked in this industry. Elsewhere you seldom find so many manufacturers making the same sort of thing at the same sort of price. I think age has a lot to do with it; this is a middle aged industry. It was started some decades ago by men with a great deal of courage who had decided that there was a future in making the new wireless apparatus. Now many of these same men are controlling big successful firms, and instead of continuing to look ahead they are looking sideways at each other. Instead of leading, they follow anyone they think is being successful, complaining happily that they cannot afford to do anything else. For instance, most firms follow the Continental style which has been widely copied or watered down. Yet, the total German import of sets in this style is only about three per cent of the total home market sales, and it competes in the high price bracket without a very marked success. At home, and more particularly abroad, it was clear that this style had a quality with strong appeal; it showed that there was a definite demand for a more 'exciting' type of cabinet. But could not this demand have been satisfied by more imaginative British designs, worthy of the chassis which were being made in this country?

Instead there has been slavish copying of particular German radio sets, and an extension of their style into television cabinets; practically no German TV sets are imported. Piano keys, brass and anodised aluminium mouldings, extrusions and pressings are being imported from Germany, all of them more than a year old. Indeed, some manufacturers intend to enter the export market using these German details, thus making themselves two years behind, and liable to rapid obsolescence. British prestige abroad is not improved; out-of-date cabinets imply a similar standard all through.

**Technical developments need fresh cabinets**

As well as the need to compete in quality and excitement with Continental cabinet designs, there are several relevant technical trends. They are mainly directed towards the reduction of size and weight, and increased fidelity of reproduction. Thermionic valves have got smaller and lighter on power, and this is particularly true of the largest valve of all, the cathode ray tube, whose depth has greatly decreased due to a wider scanning angle. The transistor is in rapidly increasing use; a smaller, simpler and longer lasting substitute for the valve it also needs only one source of power. The main saving with the transistor is in associated components, power supplies and circuitry; its reduced weight and size make it most noticeable among portable sets. Methods of wiring, the longest

and potentially most troublesome of the production operations, have simplified and culminated in the printed circuit. This is of minimum size, suitable for automatic assembly techniques, and gives the least possibility for wiring errors. Circuitry in TV has actually got more complicated due to alternative channels, improved methods of automatic picture control and the market for fringe area sets. In TV sets, methods of wiring and smaller components have kept pace with decreasing tube depths, so that all components of a set will fit into a cabinet equal to the overall dimensions of the tube itself. This largely explains, but it cannot excuse, the monotony of form of the cheaper TV sets.

Fidelity of reproduction has greatly improved in normal domestic sets, and the new VHF transmissions have accelerated this trend. Two and three speaker systems are being used in radiograms and even some table sets. A single speaker cannot handle bass and treble frequencies simultaneously without an inherent distortion, because the two interact upon each other when being reproduced by a single moving cone. Separate bass and treble speakers avoid this, and because the bass speaker handles almost all the power, the cost of the system is not doubled. In even the smallest TV sets, the cabinet and speaker sizes are adequate for quite good reproduction, although this is partly sacrificed unless the speaker faces forward. High frequencies always issue from the speaker in a beam if they are not diffused, so that a speaker in the top or sides gives a poor treble response.

**Better facilities for cabinet designers**

All these technical trends mean changes on the cabinet side. With smaller sets, detail and proportion become vital – see the best portable dictating machines, most of them American designed. The cheaper TV sets also need very careful attention to form, and a deliberate provision of interest, perhaps by the use of colour. A solution to the problem of pointing the speaker forward without greatly increasing frontal area would be a great step out of the present stereotyped mould. In the larger sets, it should be possible to make a product that is compatible with the best in modern furniture – somehow even the most furniture-like sets do not *really* work as pieces of furniture. The overall scale of a radiogram is basically that of a chest of drawers, a piece of furniture which is a storage unit; why cannot we have a piece of furniture which is a radiogram, without disembowelling some antique piece and filling it with circuitry, or simply adding cabriole legs and brassware to a walnut veneered box?

To achieve substantial improvements on the cabinet side, designers will need to be used, fully backed by management. The industry does know how to use designers creatively, but so far mainly on the technical side. If the status and facilities enjoyed by electronic engineers could be extended to cabinet designers, then the progress they could make would be more worthy of the industry's technical achievements than the current collection of formless packages that pass for cabinets.

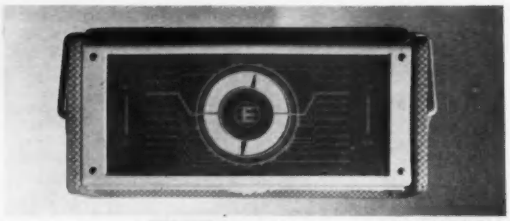
*The illustrations below and on the following pages indicate the strength – and a few of the weaknesses – of cabinet design in the radio and television industry.*

Retail prices quoted include purchase tax.

The simplicity of the chassis function – this is a VHF only set – is matched by that of the cabinet. Contrasts of colour, surface finish, texture and material are all excellently handled. CABINET DESIGNER *J. K. White.* MAKER *E. K. Cole Ltd.* £28 7s

Flowing lines and a definite style give this set a character of its own. The adventurous form of the cabinet is backed up by more exciting detail than normal, and the restrained use of brass is excellent. CABINET DESIGNER *Eden Minns.* MAKER Murphy Radio Ltd. £31

## PORTABLE RADIO SETS



▲ The solution of the handle is particularly neat here, the shaped plastic grip fitting exactly against the body when not in use. Dial layout has a flavour of the printed circuit, which this set uses. CABINET DESIGNER *J. K. White.* MAKER *E. K. Cole Ltd.* £12 12*s*

This cabinet is simple in form, and relies on subtle shapes and contrasts of texture for its effects. CABINET DESIGNER *A. F. Dunstall.* MAKER *Ferranti Ltd.* £14 3*s* 6*d*

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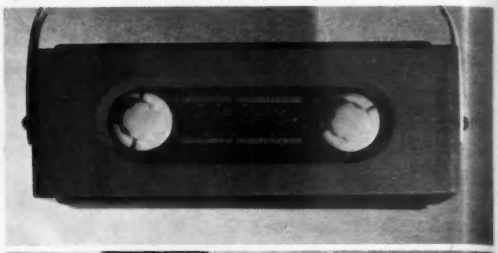
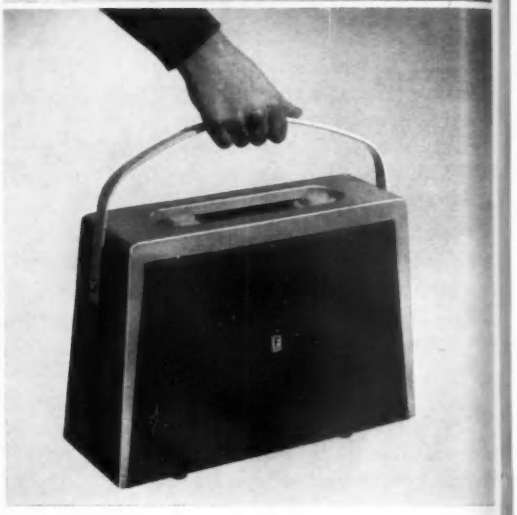
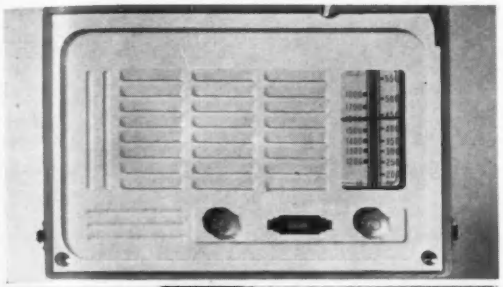
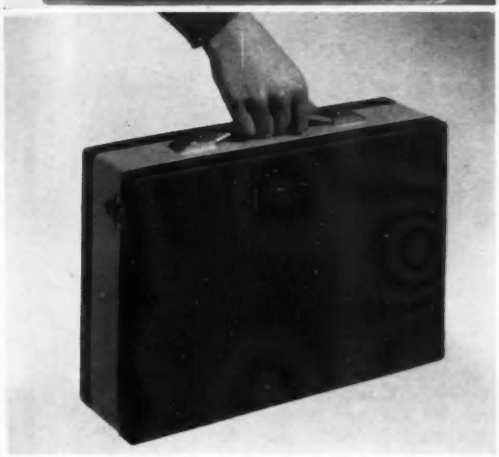


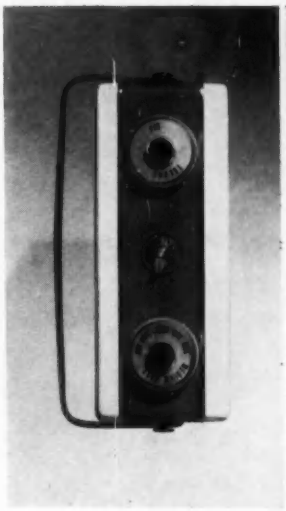


▲ A cabinet design of great distinction. The ends are of moulded plastic in maroon, the body in black leathercloth. The scale obscures the carrying handle when raised, and protects speaker and controls when lowered. Detail is excellent. CABINET DESIGNER *A. F. Thwaites.* MAKER *Murphy Radio Ltd.* £20 14*s*

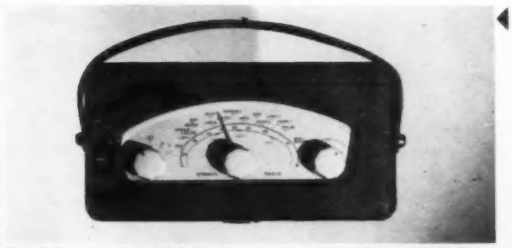
A traditional type of portable, using a frame aerial in the lid. The detail is coarse and uninteresting, and the relation of the various elements is very poor. The design of the nameplate can only be described as 'Odeonic'. MAKER *Vidor Ltd.* £13 13*s*







The smallest, lightest, most expensive and the most advanced technically of the portables. The all-transistor printed circuit is powered entirely by four U2 cells; the cabinet is finished in ivory and tan leathercloths with a natural leather handle. Gold metallic detail is used with restraint. MAKER *Pam Radio and Television Ltd.* £31 10*s*

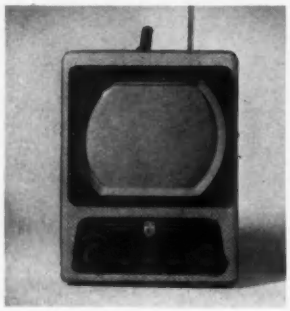


Although small and superbly made, this set gives an impression of clumsiness. The proportions of the case itself, speaker and dial openings and the control knobs are all unrelated. MAKER *Roberts Radio Co Ltd.* £19 19*s*

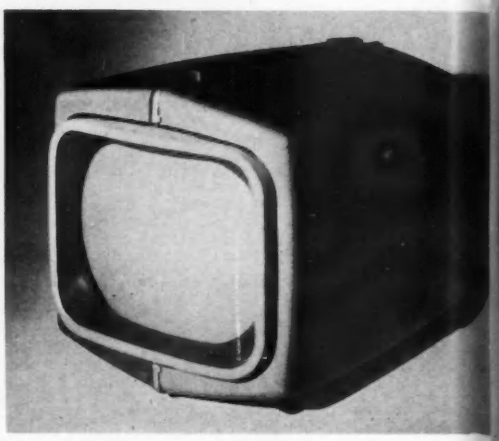
## PORTABLE RECORD PLAYER

A printed circuit portable record player, using four transistors. This player is small (11 by 9 by 5 inches) and light (8lbs with batteries). The cabinet uses leathercloths in a two colour combination, but generally the design is unimaginative. MAKER *A. C. Cossor Ltd.* £20 9*s* 6*d*

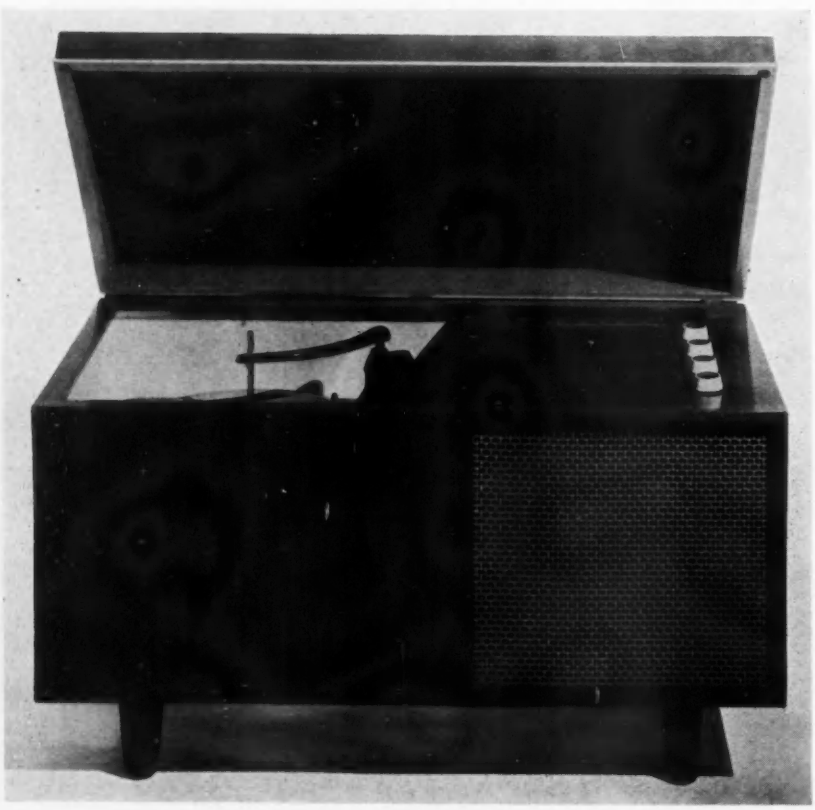
## PORTABLE TV SETS



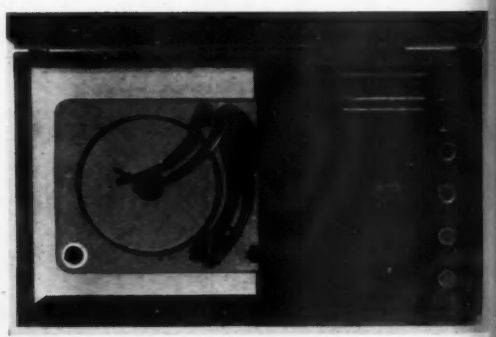
This portable incorporates a VHF radio. The front is a collection of unrelated shapes, some of them ugly in themselves. Surely this whole front could be pulled together without any addition to costs. MAKER *E. K. Cole Ltd.* £72 9s



The two identical halves of this set are made from resin bonded fibre to give strength and lightness. The angular form of the case is largely dictated by the moulding method. An imaginative solution, this case has also been skilfully detailed. CABINET DESIGNER *A. F. Thwaites.* MAKER *Murphy Radio Ltd.* £54



## RADIOGRAM

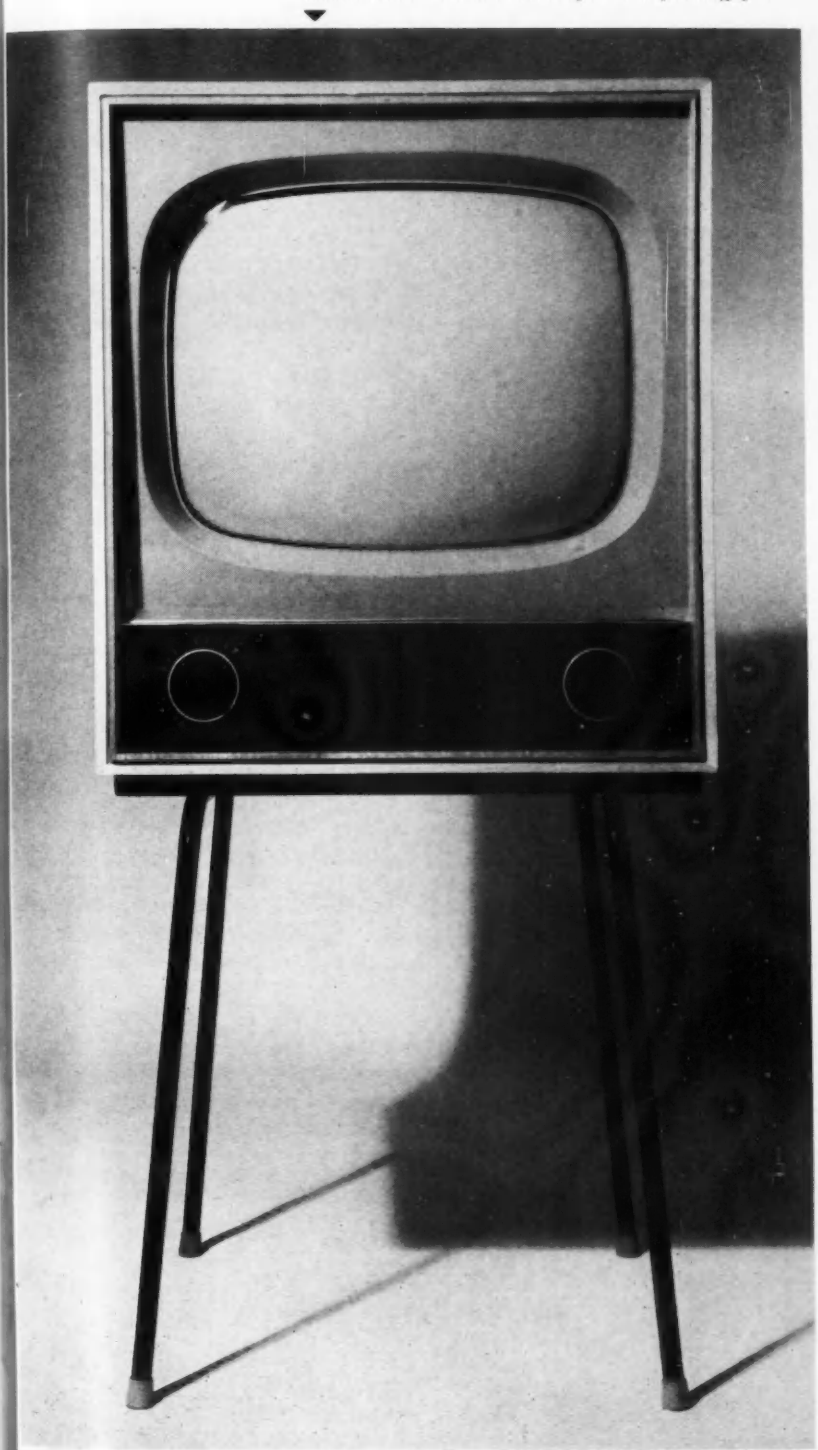


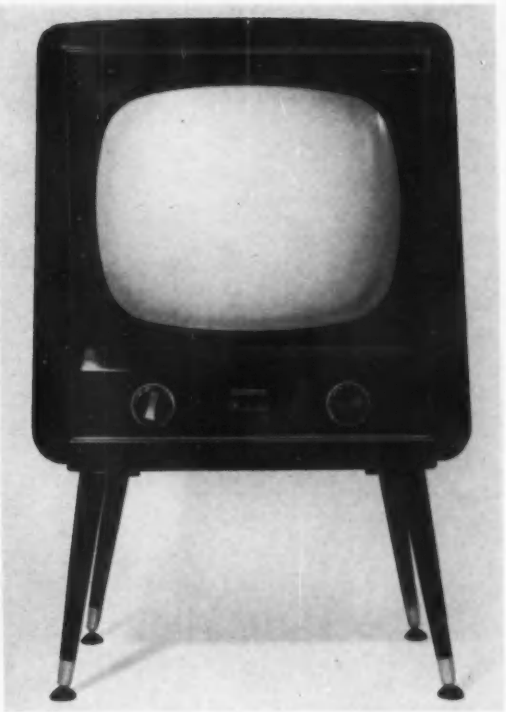
This 'Studio' radiogram has clearly articulated lines, and basically good proportions. The top is of 'Warerite'. MAKER *The Marconiphone Co Ltd.* £61 19s

## STANDING TV SETS

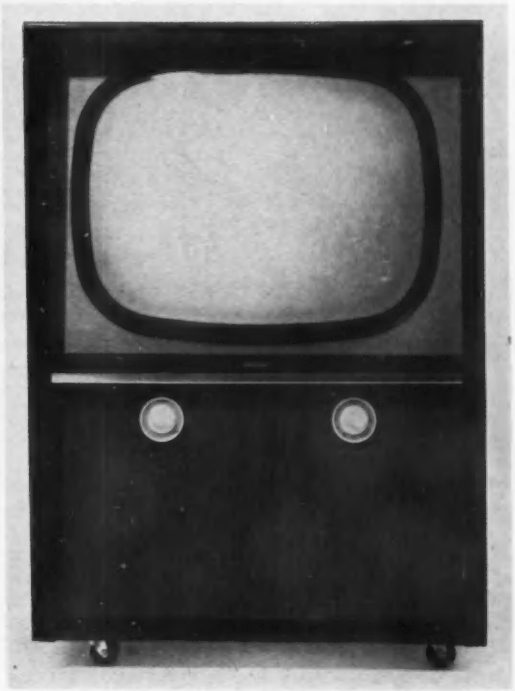
There are few faults of appearance which could not be ascribed to this set. Coarseness, both overall and in detail is probably the salient characteristic. The sales leaflet for this set shows a picture of prize fighters in action which may be significant. MAKER *Pye Ltd.* £102 18*s*

The other side of the coin: the same firm using a consultant designer for the cabinet. This model is unusually straightforward in form and detail, with exciting use of colour on the mask. It expresses the feeling of an electronic instrument housed in a fine cabinet. CABINET DESIGNER *Robin Day*. MAKER *Pye Ltd.* £85 1*s*





21-inch console cabinet of pleasing simplicity. Good proportions and detailing speak for themselves. CABINET DESIGNER *A. F. Thwaites*. MAKER *Murphy Radio Ltd.* £121



# GLASS FIBRE

## *current developments and future possibilities*

JOHN E. BLAKE

AFTER AN INITIAL BURST of popular enthusiasm for glass fibre reinforced plastics, designers, fabricators and material manufacturers are settling down to what is generally recognised to be a more realistic appraisal of the possibilities and economics of this new material. It must not be forgotten that glass fibre *is* a new material and in the structural sense is essentially a post war development. But just as Freud is more often discussed than read, glass fibre is less in evidence in our homes, in the streets, factories or offices than the frequent mention of its name would lead us to expect.

What use have we in fact been able to make of it? Developments during the past two or three years point clearly to its practical possibilities and also to its limitations. Experiments, particularly in the USA, suggest that we may have been trying to force its use in products for which it is not particularly well suited, while its real future may rest in large scale units for housing or public transport. In some types of product where glass fibre has been considered ideal, other materials for reinforcing the resins (asbestos or wood fibres) have been found adequate and cheaper.

### Economics of production

No manufacturing material can be discussed without reference to other materials available and to the conditions in which it will be used. The characteristics of glass fibre mouldings have been frequently stated. They can be made into shell structures of great rigidity which at the same time are comparatively light. They have good insulation characteristics and do not corrode. Tooling costs are low and moulding operations can be carried out with semi-skilled labour. Against this the material costs are high and a balance has to be struck between the size and complexity of the design and the production output required, in order that the product should sell at an economic price.

In general a large glass fibre moulding, such as a caravan or boat made in small quantities by the wet lay up process, can be produced more economically than a similar design in panel beaten aluminium. Very large quantities of such a design would be required before the cost of press tools and production in steel would be justified. In small mouldings, such as for radio cabinets, there are other plastics, some reinforced with alternative materials, which can be moulded more easily and at less cost.

Matched metal dies can speed up the moulding process and for medium production runs are suitable for small products which call for the high strength/weight characteristics peculiar to glass fibre reinforced plastics. Though the cost of the actual dies would be less than that for press tools the production cycle is slower since the moulding must cure between the heated dies for several minutes before it can be released. Thus if a higher production rate is required a second or third set of dies must be made and the tooling cost will then be higher than that for production in pressed metal. At a recent meeting of the Institution of Mechanical Engineers it was estimated that it would be economic to produce car bodies in glass fibre with matched metal dies in quantities up to about 15,000, but above that the duplication of tools would be excessive and the cost of the car body unrealistic. The duplication of moulds for production by the wet lay up process is, however, more practical since a number of identical glass fibre moulds can be quite cheaply and easily produced from a full sized wood or plaster model. By this method, a production rate of about 200 a week is planned for the small 'Berkeley' car from 10 sets of moulds, working by a shift system.

### New applications

From this it is clear why glass fibre has appealed primarily to the smaller manufacturer who had previously to rely on traditional craft based techniques because he was unable to afford the capital expenditure on mass production tools. One of the most obvious illustrations can be found in the caravan industry where, in about six firms, the changeover from ash and aluminium

panel construction to mouldings in glass fibre has allowed considerable progress in design. Glass fibre mouldings derive their structural rigidity largely from their shape. Compound curvature in a caravan is not only desirable aesthetically, it is necessary for strength if glass fibre is used. Thus caravan builders have been able to create a modern character in their designs which was very costly with their traditional building methods.

Similar reasons have prompted boat builders, manufacturers of specialised cars, furniture makers and so on to experiment with this material. But unless the material cost is drastically reduced, which seems unlikely, and moulding times can be considerably shortened, there seems little likelihood of glass fibre plastics being used extensively in mass production industries to replace metal or other types of plastics. Since the economics of the material favour large and fairly complex mouldings it is likely that its future development may rest in spheres which remain virtually unexplored in this country. Already American architects and manufacturers are thinking seriously in terms of factory made reinforced glass fibre shelters and houses, which will allow a new freedom in planning and give a new visual character to architectural design. Sandwich construction systems, already developed in various forms and used in the caravan (page 26) and the refrigerator (page 28), will give sound and heat insulation properties that would provide higher standards of comfort in extreme climates and more noise protection in high density living.

Glass fibre panels have been used successfully in many types of public transport and delivery vehicles in this country, but the large single piece mouldings in the railcar (page 29) show a logical extension of the idea to exploit to the full the unique and versatile characteristics of the material.

In extending the use of glass fibre reinforced plastics the designer will need more information on performance characteristics than seems at present to be available. Doubts have been expressed on the stability of the material under certain conditions and on its ability to withstand constant loads. Self coloured mouldings are now considered unsuitable for exterior use, though at one time self colouring was claimed as a valuable property. The true qualities of the material are becoming better known but there are still discoveries to be made which will determine more accurately its future value in industry.

## CARAVANS

The development of glass fibre reinforced plastics for caravan construction has been rapid. Three years ago no glass fibre caravans were produced in this country. In the last two years, however, at least six firms have produced models in which the complete shells are constructed of polyester glass. The first design, by Berkeley Coachwork Ltd, **1**, appeared in September 1955. It consisted of a single shell moulded in two halves and bonded together down a centre line over a conventional chassis and floor on which the interior furniture had already been fixed. Some designs produced afterwards by other firms made less use of glass fibre's ability to be moulded in compound curves, showing a reluctance to depart from the forms which had grown up around conventional caravan building techniques. A more ambitious glass fibre caravan was produced early in 1956 by Willerby Caravan Co Ltd, consisting of separate mouldings for the roof, sides and ends, and with double skin construction. A more recent design, **2**, by the same firm has simplified the moulding of the exterior shell and at the same time included similar internal mouldings. Above the floor line the complete outer shell is moulded in one piece. This is bonded to a floor moulding, **3**, shaped in a series of box sections giving tremendous rigidity to which is bolted a

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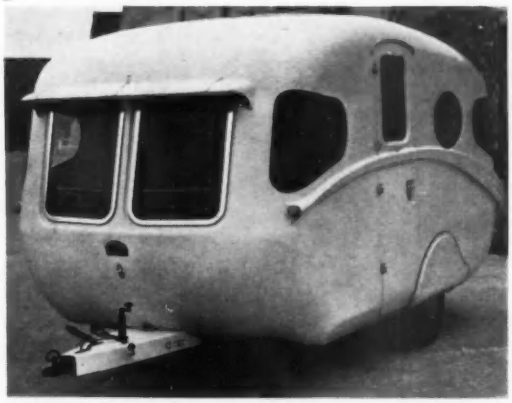

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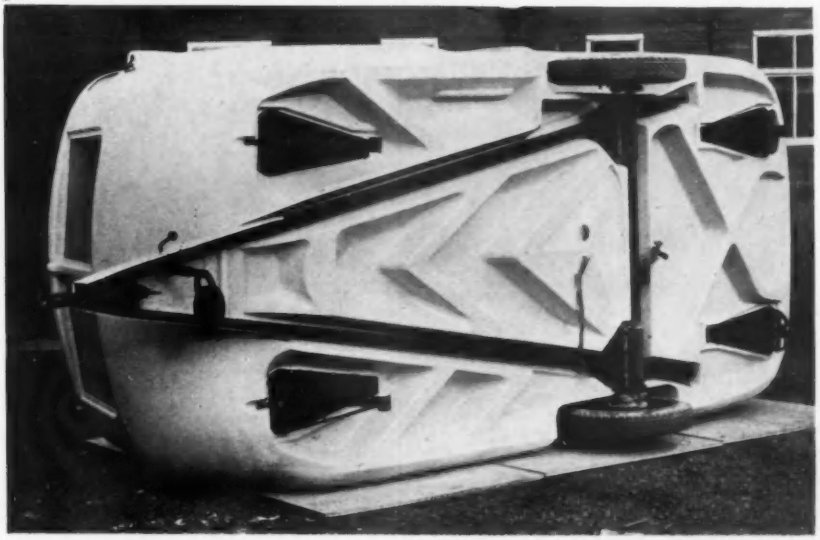

# GLASS FIBRE

CARAVANS *continued*

light metal framework comprising the axle and drawbar. Unfortunately the desire to take advantage of the compound curvature has led to exaggeration of such an extent as to result in soft contours and contorted window shapes. The latest glass fibre caravan, **4**, with mouldings made by Wemyss Woodhouse Ltd for Watling Joinery Works is the most satisfying in appearance. Like the Berkeley **1**, it consists of two mouldings joined down the centre, but internally it is insulated by PVC sheet bonded to foam plastics which is in turn bonded to the inside of the shell. This sandwich construction was suggested for a student-designed caravan published in DESIGN October 1954.

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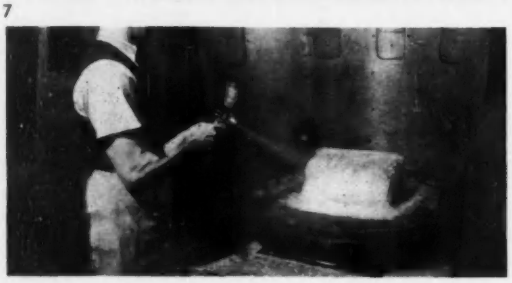

## MOULDING WITH MATCHED DIES

The typewriter carrying case for Imperial Typewriters Ltd, **5**, is one of the few examples of production by matched dies in this country, and replaces a rexine covered wooden case. The technique consists of depositing chopped glass fibres on to a perforated preform tool by negative pressure, **6**, after which a binder is sprayed on, **7**. The preform is then placed on a chromium plated steel male moulding tool, **8**, and treated with resin. The preform is subjected to heat and pressure from a matching female tool and cured for about three minutes. The moulding is later cut and pierced for the handle and lock attachments. A production of 500 units a week is achieved from one set of tools. At this rate of production it is estimated that the cost is about the same as that of a similar pressed metal article. The moulding is carried out by Ashdowns Ltd.

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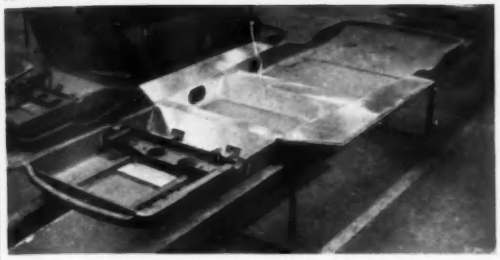

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## CARS

The idea of using glass fibre for car bodies has always had a popular appeal. The material's rigidity, impact strength and resistance to corrosion led to a common belief that all cars would soon be constructed from this material. Subsequent experience has shown that it is only in the specialised car, produced in small quantities that glass fibre construction is, in fact, practical. Most development in recent years has been in sports cars where the high strength/weight ratio is an advantage in creating high speed performances. An example of this specialised production is the 322cc 'Berkeley' miniature sports model, **9** and **10**. This car, designed by Lawrence Bond and manufactured by Berkeley Coachwork Ltd is produced in three basic mouldings by the wet lay up technique. A production run of 200 a week is planned, for which 10 sets of moulds are required. The curing, by infra-red lamps, in a series of specially designed ovens has been planned to allow a steady flow of moulded components for assembly on the production line. Photographs **11–13**, taken before the production line was operating show some of the basic stages of assembly. In **11**, the complete floor moulding can be seen with additional metal box sections to give extra rigidity and to provide attachments for the engine. The mouldings are self coloured and the surface is polished on buffers but has an additional spray painted finish. The car is slim and elegant in appearance and shows the comparative ease with which a complex engineering project can be undertaken in glass fibre by a firm which would normally be considered too small to enter the car industry. A similar problem has been tackled by S. E. Opperman Ltd in a miniature saloon car also designed by Lawrence Bond, **14**. The car is made in a similar way to the 'Berkeley' consisting of six basic mouldings, excluding doors and other details and production is planned for about 100 cars a week. In

14

# GLASS FIBRE

CARS *continued*

addition to the actual production of special cars, the motor industry has found glass fibre useful for experimental models. An example is the Saab 'Sonett', **15**, from Sweden, one of the most elegant designs of this type, made as a test-bed for the Saab 93 engine. A similar purpose has dictated the use of glass fibre for the American Buick 'Centurian', **16**, a 'dream car' first shown to the British public at last year's 'Motor Show'. Here large complex sections have been moulded with a simplicity difficult to attain by other means.

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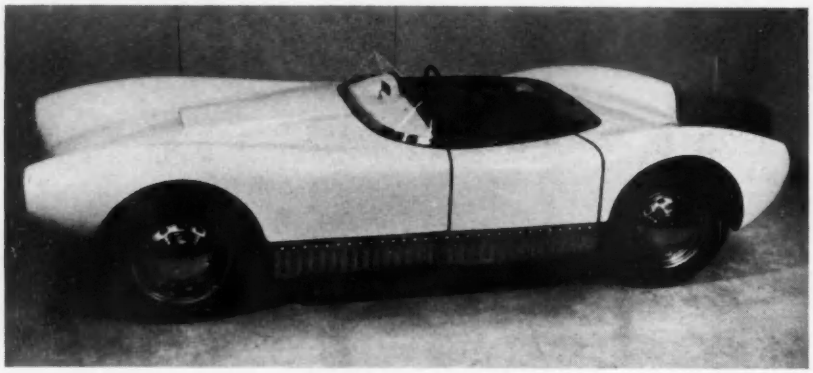

16 Sam Lambert

## PRESENT AND FUTURE USES

Glass fibre for furniture has been slow to develop since the revolutionary design by Charles Eames (DESIGN June 1954 pages 30–31). Several examples produced by the wet lay up process have appeared in this country by small manufacturers and the influence of the Eames design is apparent. Bernard Schottlander's chair, **17**, is one of the most recent and is the first of a range by this designer who has previously concentrated mostly on metal lighting fittings.

A sandwich construction system is used for the casing of the built-in Westinghouse refrigerator, **18** and **19**, though the doors are in metal. The sandwich is made in flat sheets and consists of two glass fibre skins bonded under pressure to a two and half inch thickness of foam polystyrene. The sheets, which have good insulation characteristics, can be cut to any size and are mitred and folded to form the corners. The need for good sound insulation has dictated the use of glass fibre in the telephone booth, **20**, by Protective Plastics Ltd, Canada. It is claimed that the noise level inside the booth, located in a factory workshop, is reduced to that in an average office. The application of single large scale mouldings to replace fabrication from numerous small components is a logical development from present uses. The

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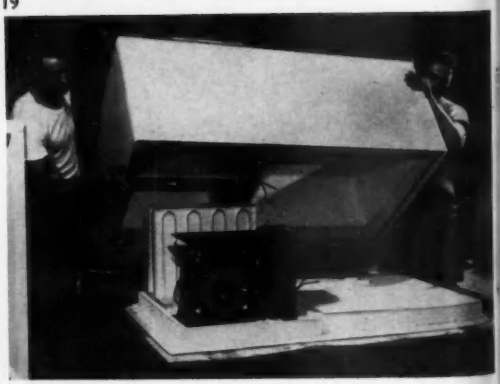

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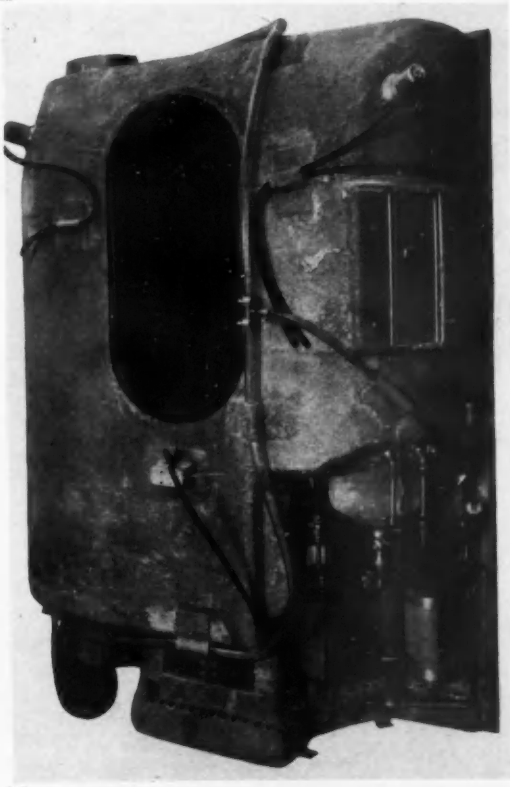

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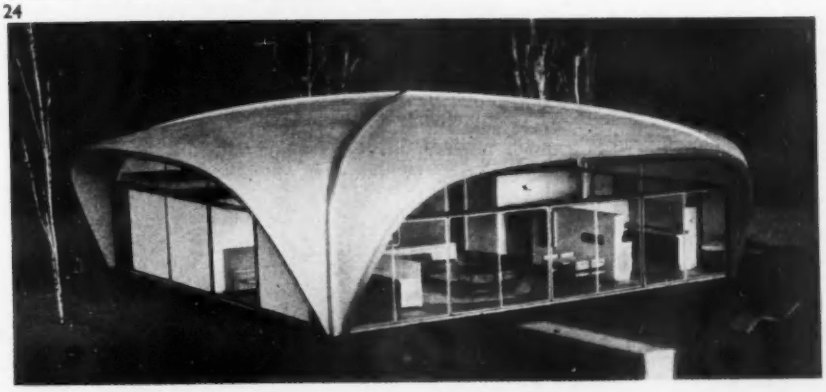


railcar, **21**, by The Budd Co, USA, has upholstered double seat units made from single mouldings, with moulded wall panels. For dining car versions it is proposed to incorporate the wall section and four seats in one moulding. Mouldings of this size and complexity have already been made for the lavatory, **22** and **23**. The extension of these applications to housing has already been planned experimentally, and brings closer the idea of large factory made units for quick assembly on the site. The Monsanto house was illustrated in DESIGN last month (page 50). The project shown here, **24**, by the American architect Eliot Noyes for the General Electric Co, USA, envisages a roof from four sandwich panels consisting of foam plastics faced with glass fibre skins.

# DESIGN ANALYSIS 1

J. BERESFORD-EVANS

In 'Good Form', a series of articles published last year, the author discussed some of the visual principles which guide the industrial designer in his work. This year Mr Beresford-Evans has applied these principles as a basis for analysing a number of individual products, recently introduced to the home market. At the same time he has extended the scope of his study to show how far the user's convenience has been taken into account in their design. Thus in this first article on the Tricity 'Trivet' he has drawn on his experience of using the cooker in his own home and has discussed his findings with the manufacturer and the designer.

But the standpoints of aesthetics and user convenience represent only one side of the industrial designer's activities. The structural aspect of design has been discussed in another series of articles – 'Design and Stress Analysis' by L. Bruce Archer, who suggested that the valuable information derived from scientific methods of structural analysis are largely ignored by designers today. Later this year Mr Archer and Mr Beresford-Evans will join forces in a logical climax to their twin series to bring a broader and more thorough approach to design criticism than has been possible so far.

## TABLE COOKER

MAKER *Tricity Cookers Ltd*

CONSULTANT DESIGNER *E. G. M. Wilkes of Wilkes and Ashmore*

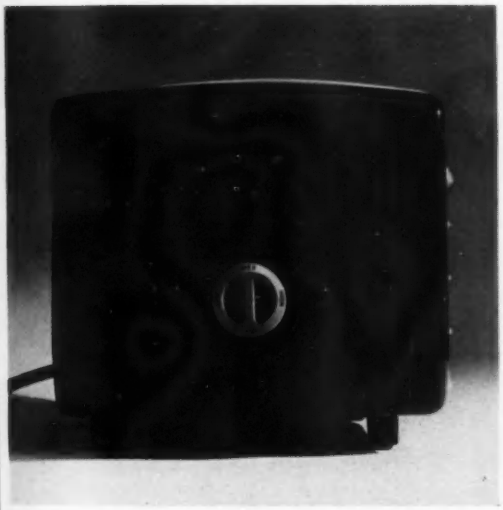
RETAIL PRICE £12

A PROBLEM facing many people is how to cook in a bed sitting room or a small flat, with *cuisine* efficiency and yet without intruding on the limited space and decorative possibilities of the one-room home. The Tricity 'Trivet' solution provides a conventional means of cooking, but does this with an appearance suggesting a radio set or some such equipment associated with the parlour rather than the kitchen.

A very different function is also proposed in its use as a secondary or dining room cooker, to produce special dishes at the table side. There is no established habit of cooking in this way – except for the head waiter's methylated flamboyance of *crêpes suzette* and other *flambées* – but habits often follow the lead given by an appliance, and here the hostess could be freed from the kitchen for some parts of ordinary cooking.

The cooker is quite easy to move, in spite of its weight, because it is simple to grasp; it can stand on a piece of furniture without fear of scratching or scorching, so that it is physically at home in the living space. The central parts are stove enamelled in a grey blue 'Epicote', but the ends are vitreous enamelled in a choice of strong colours, and it is the ends which define the shape by colour contrast and their precise taper.

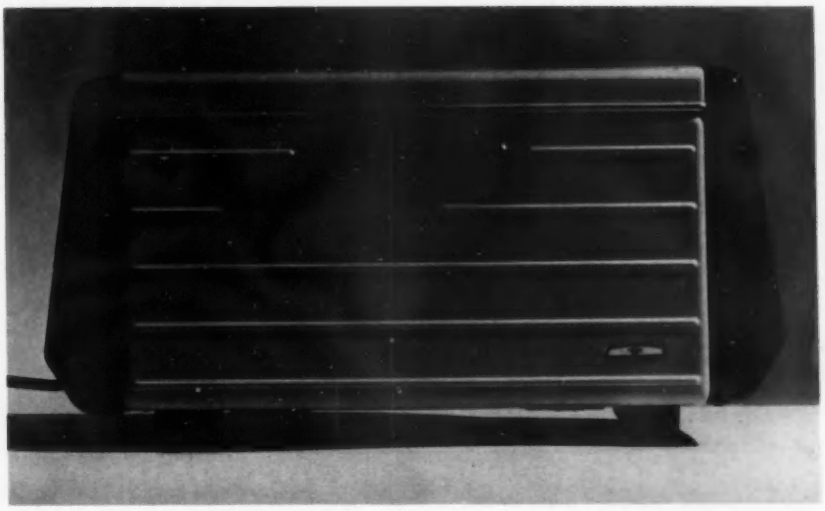
When not in use a cooker of this kind needs to take its modest part in the general surroundings; but once



▲ The switch might with advantage have had a more distinctive marking for the OFF position, and a dimple or some small guide as a point of reference for the reading. The placing of the switch would have appeared more secure had it not been set so low on the panel.

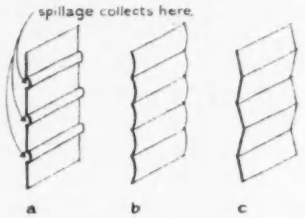
The general appearance is in the manner of contemporary equipment without suggesting that it is a cooker, yet this is not camouflage nor does it strain its usefulness as a cooker. The end plates with their inclined surfaces hold and contain the form. Change of colour helps to divert attention from the joint between the ends and the doors, so that the $\frac{3}{16}$ inch clearance gap is not noticeable. The remaining joint, that between the front and top doors, is made by a well finished trim which acts as a lip for lifting the top. The moulded door handle, in trying to bridge the whole colour range, fails to match anything in particular.

The name sign is impeccable. Small and quietly coloured, with an interesting and appropriate shape, it has a good-mannered modesty that one rarely meets at such a position.

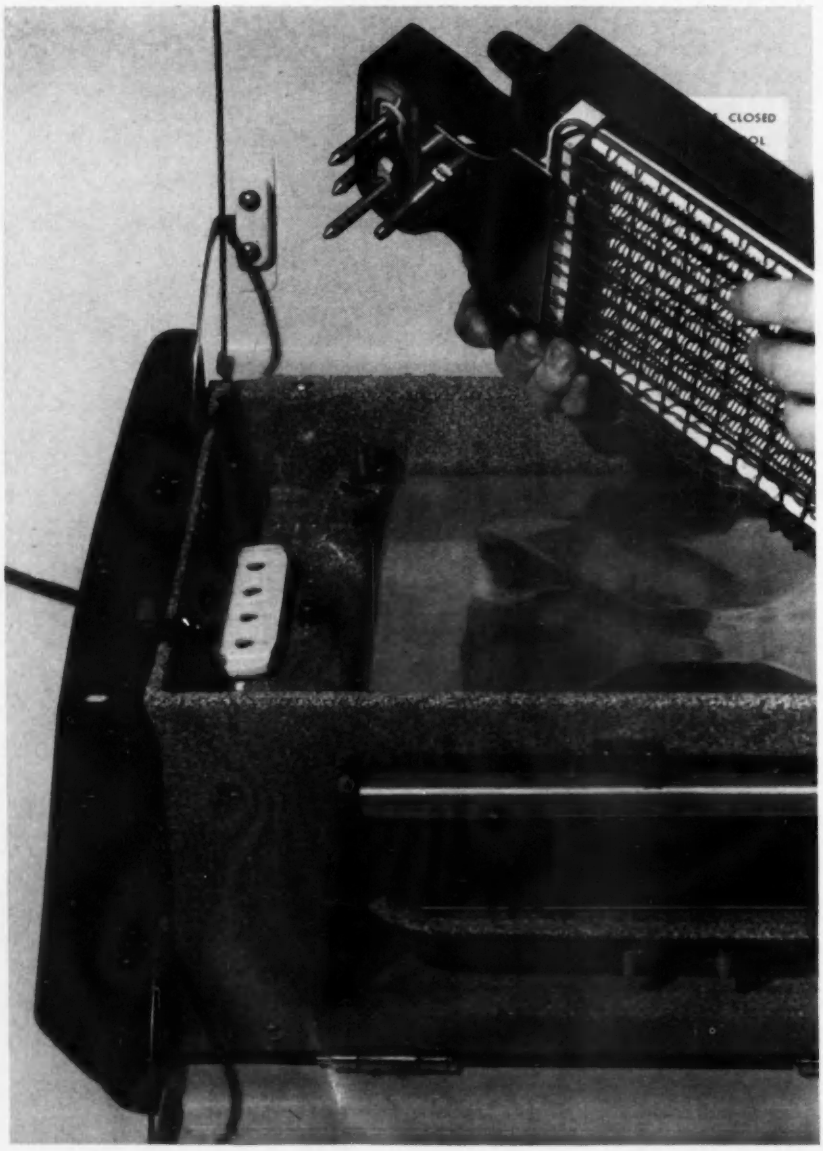


▲ The 'Trivet' would be an ordinary box-like appliance were it not for the interesting shaping of the end panels. Depth of panel is needed on the left for the control gear, but character is given to the whole cooker by the use of a sharp change of plane between the outward and inward slopes of the ends. This shape is never allowed to sag or degenerate into soft 'streamlining', because the corner radii are kept as sharp as is desirable with pressed work of this kind, so that the form is well defined.

Spillage collects in the grooves of the front door, shown diagrammatically in a. Other solutions, however, could be found which would provide the horizontal enrichment required as well as the necessary stiffening. The two alternatives suggested in b and c would be far easier to clean.




The hot plate and hob lift off to give good access for cleaning.




opened for cooking it attracts attention, so that a relationship between the closed appearance and the opened or internal appearance is important. The white vitreous hob looks well against the black hot plate and makes a pleasant contrast of colour and texture with the grey finish of the grill compartment. This grey mottled vitreous enamel is an accepted utilitarian surface because it wears well and is among the least expensive of the vitreous enamels, which are always costly. Thus its use is almost inevitable for the less prominent parts, such as grill chamber linings. Unfortunately it looks unpleasant or ill considered against the grey blue of the door and lid, and it would have been a better product if these colours could have been adjusted to harmonise. Furthermore, when the detailing of a part, such as the grill pan or handle, is less well contrived than parts of the casing, then we may feel that this is not a fully integrated product but a new casing laid over components with other and less exacting standards.

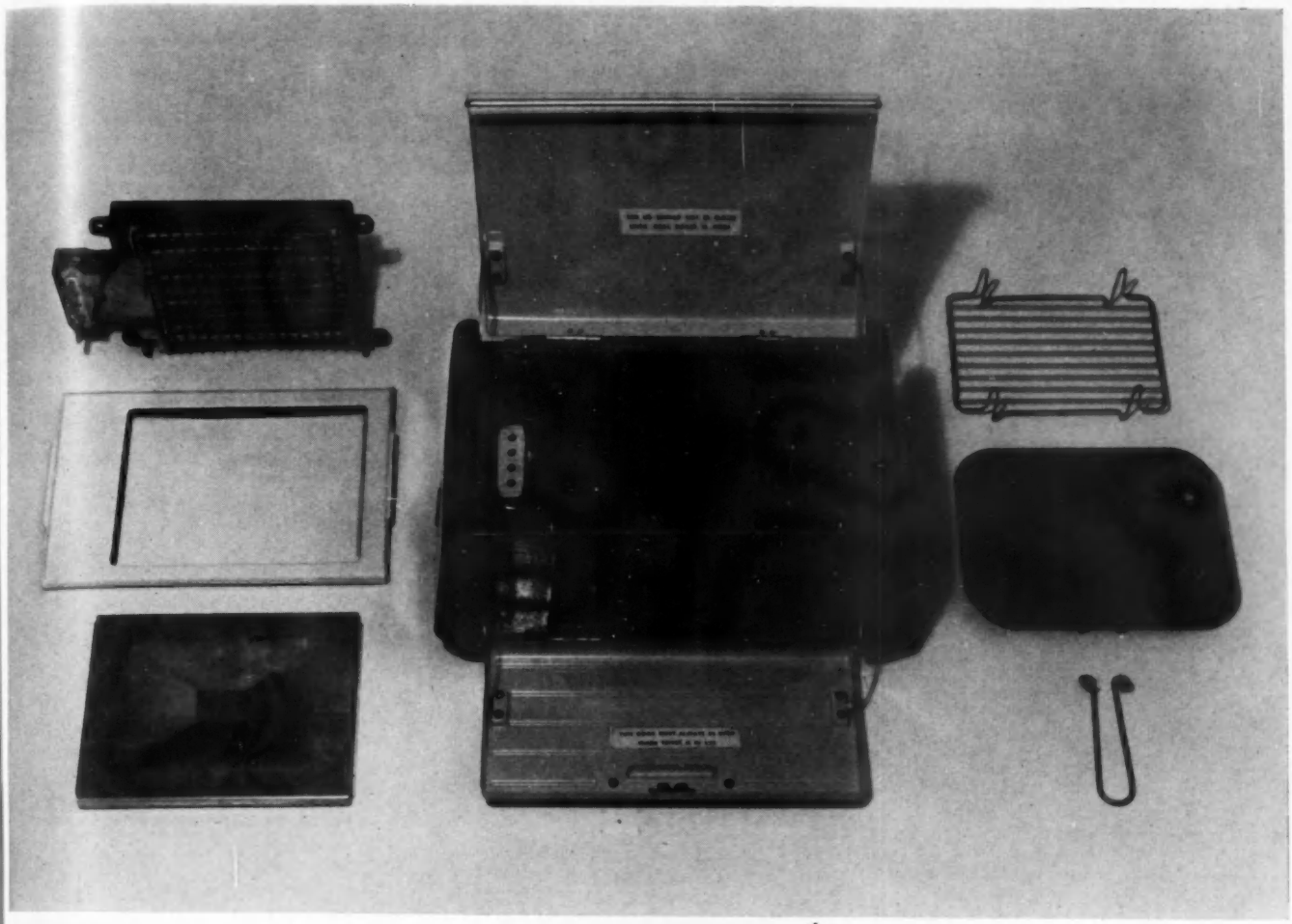
Here is a common dilemma of practical design, for either something of the overall appearance is to be sacrificed in the interests of price and time spent on development, or a total redesign is called for. Some compromise is usually necessary and we should not criticise the compromise as such, so much as the manner in which it has been carried out.

**The user's convenience**

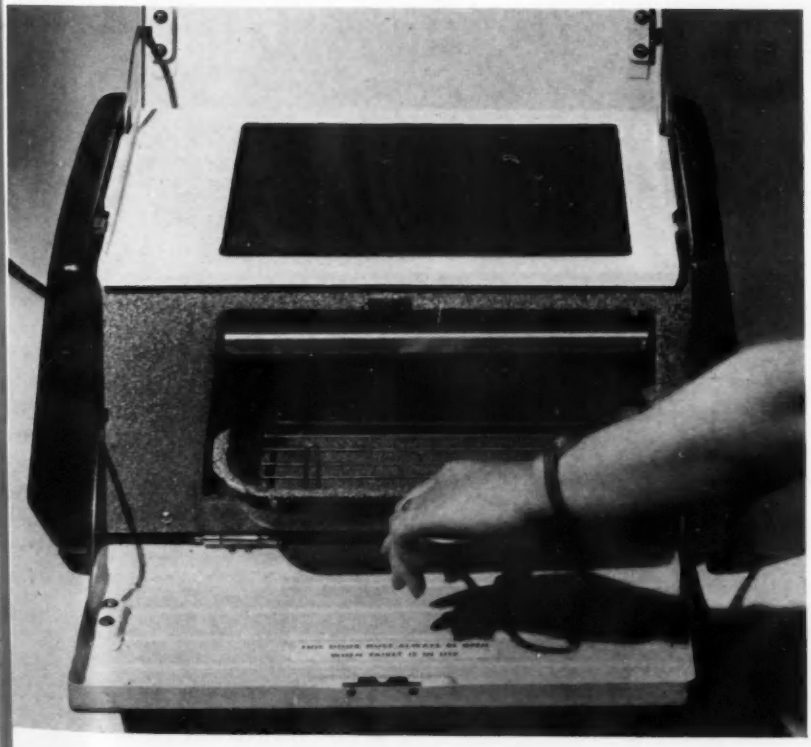
The user cannot expect a small portable to have all the refinements of a full sized cooker, but the control switch comes easily to the hand in any position, with very little back-lash, and it is pleasant to use. The top cover hinges back to make a sensible splash plate, and the grill door is checked from striking the table top. The only thing that needs watching is that the lid should be left open, to prevent discoloration, until the hot plate has cooled. The hot plate takes 2¼ kw and comes quickly up to full heat with a very even heat distribution in the central area; the fall away of effective heating at the sides can be quite useful in a small cooker.

Heat is well confined by the reflector plate, but this ought to have been devised as a drip catcher, for overrun spillage is hard to clean out of the grooves in the front door. These grooves might be reconsidered for, although they have the double purpose of stiffening the door panel and giving the face of it an important horizontal enrichment, there is a wide range of means that could be used. The right choice of panel would be easy to clean on both sides.

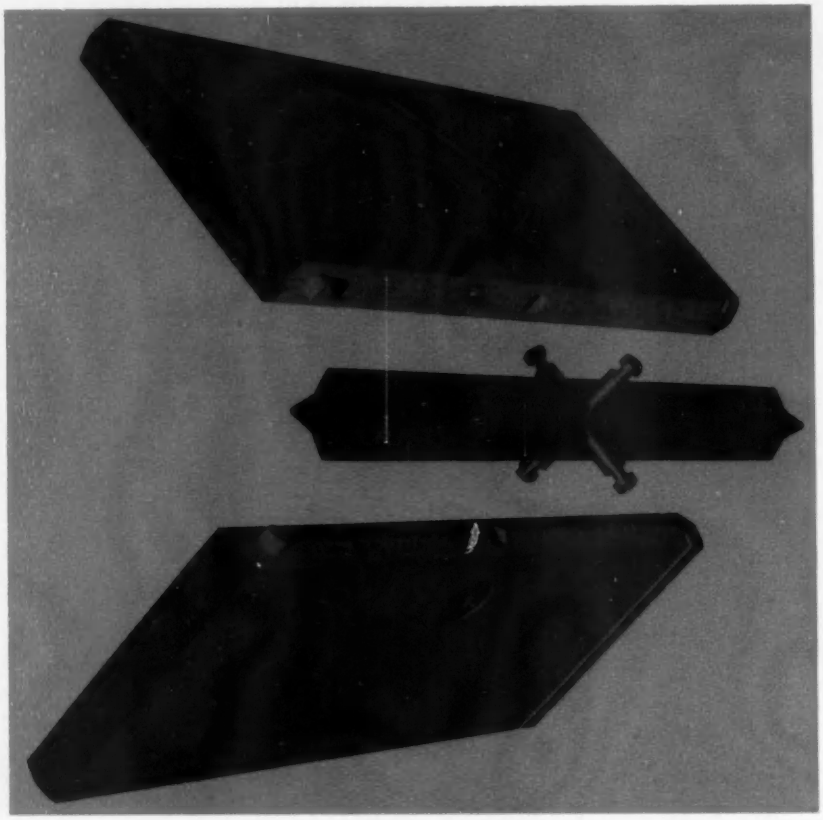
These are minor matters to mention in a product which is 95 per cent good points, but it is the quality of the whole that throws them into relief. For instance, one is surprised to find a common practice of the cooker industry being followed in sending out the hot plate with a black lead paint finish. This took 40 minutes to burn off, with a surprising amount of smoke and smell. The pride of a new possession is going to be tested by the disturbance, to the user, caused by a trivial technical matter.

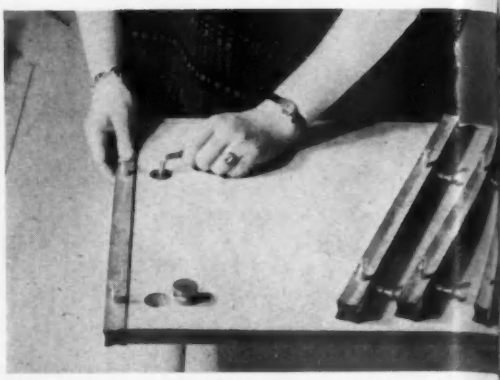


With all components removed, complete access to the interior for cleaning is possible. If, however, the reflector plate (bottom left) had been devised as a drip catcher, the problem of cleaning the over-run spillage from the grooves in the front door would have been lessened.

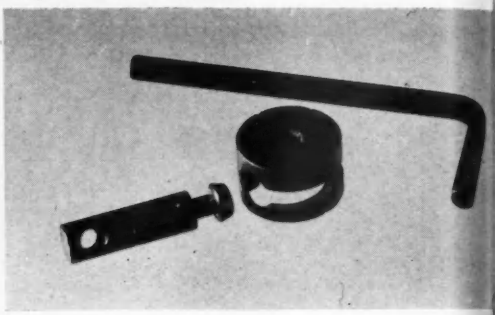


The almost conventional grill pan scarcely does justice to the good detailing on door fastenings and elsewhere. As it should be, however, this view is dominated by the pure whiteness of the hob.





The method of assembly can be seen above and in the 'exploded' view, left. The drum-shaped cam is recessed into each of the carcase components. A slot in the drum, below, slides over the head of the brass rod screwed into the corner piece. By turning the drum with the key, the corner piece is pulled tight to form a strong joint. No glue is used in the operation.



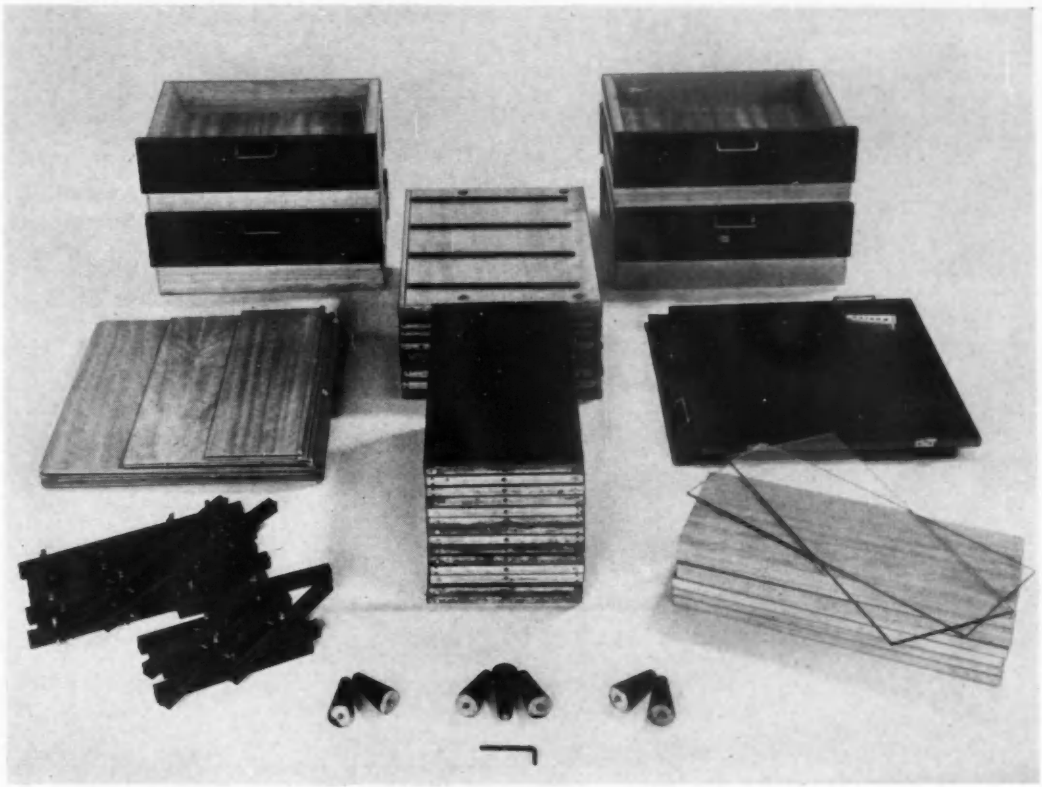
# New units knock down

WITH FEW EXCEPTIONS the term 'unit furniture' as applied to the majority of modern household storage equipment is a misnomer. Unit furniture implies a method of building on to a small basic piece as needs dictate or finances permit. Although the unit idea started before the war with designs for all types of household storage cabinets, such as Plan Furniture, it often refers only to dimensional standardisation of cabinets within a range.

The new 'Extend' furniture produced by D. Meredew Ltd, has accepted the challenge of the unit idea in a range of storage cabinets and shelves which is capable of many variations from a few basic units, and endless extension both vertically and longitudinally. Unlike other 'unit' furniture in which self contained pieces fit flush together (but remain self contained) each extension in the Meredew range becomes an integral part of a completely new design. The system is simple and is based on a series of flat components (bottom, sides, top) which butt on to corner pieces and are locked firmly together by a circular cam operated by a hexagonal key. The corner pieces allow extension in any of four directions so that a single corner piece can provide the central connecting link in a group of four cabinets. Because of this, dimensions are measured from the centres of the corner pieces, the units being all 2 ft high, 2 or 3 ft wide, and 1 ft or 1½ ft deep.

The carcase structures can be fitted as drawer units as cupboards with shelves and folding doors, as a bureau with a dropfront or as open shelves. A composition chip board was chosen to ensure the absence of thickness variation necessary in this type of structure where tolerances must be kept small – in these designs 'Weyroc Gold Seal', veneered with Burma teak externally, and avodire inside, is used. When buying from a retailer the customer is asked to provide a sketch of the arrangement he has in mind and the piece is then delivered already made up to his specifications. Considerable economies in transport and particularly shipping costs, result from the ability to pack the components flat for assembly at the destination.

The 'Extend' range was developed by the Meredew Design Group from designs by C. Braakman for UMS, Holland. Furniture based on this system is also produced in Germany and Sweden. J.E.D.



The illustrations below show typical groupings that can be built up from this range of unit furniture. On the right can be seen all the components of the largest group before assembly.

# House style

## *for household appliances*

*The special 'House Style' issue of* DESIGN *for November 1956, aroused such wide interest that we shall report on this subject regularly in future. The development of a domestic appliance manufacturer's style, linking product and presentation, is described below by the author of the special issue.*

THE HOUSEWIFE buying a vacuum cleaner or a floor polisher is unlikely to be concerned with the typographical standard of its nameplate or the colour scheme of its price ticket; but over a period such niceties of design have their effect in helping to mould the public's opinion of a firm's character. When they are as well handled as in Vactric Ltd, they must give the manufacturer's products some slight edge on his competitors'.

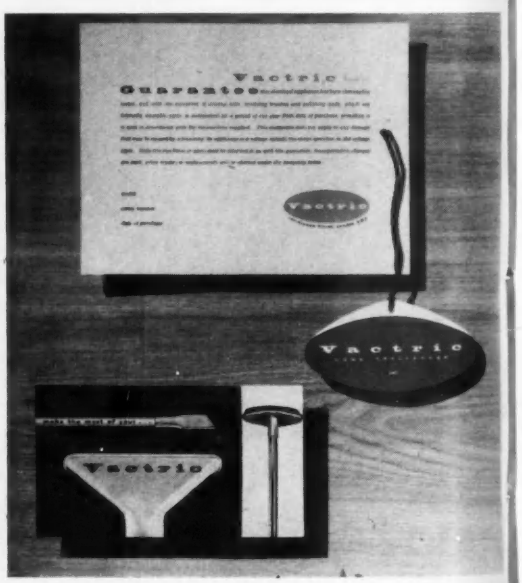
This company's house style goes beyond its sales promotion leaflets into such necessary but often dull pieces of printing as forms, guarantees, instruction sheets, parts lists, and extends beyond printing to the painting of vans and the lettering on Vactric's newest type of vacuum cleaner itself.

Whatever else it is, the Vactric style is never dull: perhaps occasionally it is *too* hard hitting, but always it is fresh and forceful. It involves the use, in a wholly contemporary manner, of those powerful type faces that advertisement typographers jumped away from in the 'thirties and jump at today – eg an expanded Egyptian for the firm's name; Grotesques; newspaper faces such as Ionic. Colours are correspondingly strong, with deliberate (and successful) discords at times.

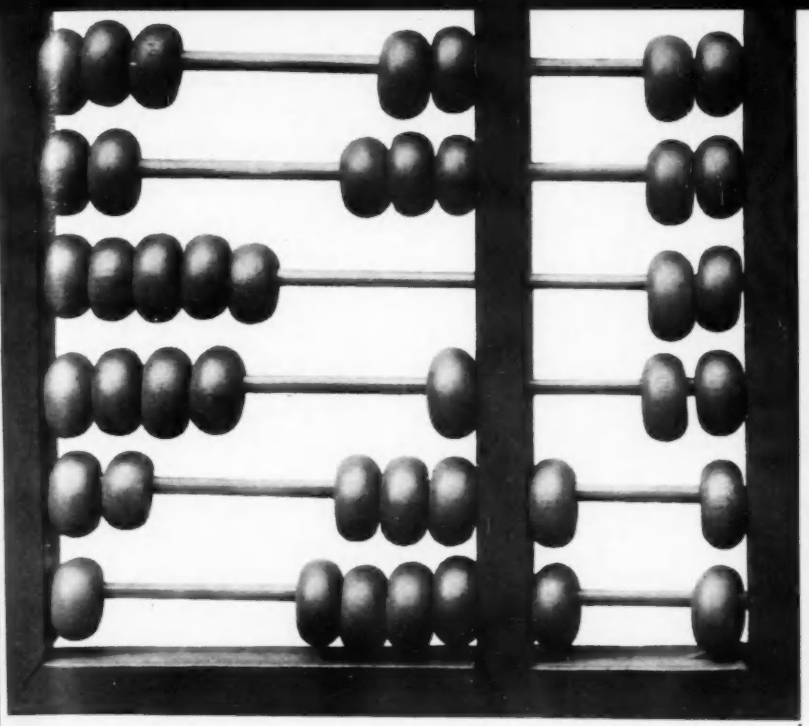
The style has evolved, over the last three years, in Vactric's own design department. ALEC DAVIS

Distinctive typographical style forms a visual link between the latest Vactric product and the supporting publicity material. Model 'R 56': retail price including purchase tax £26 3s 7d.

This 8-ton 'Bedford' articulated van allowed the firm's house style to be writ large. Vactric's designers did not miss the opportunity.




The guarantee form, ticket and instruction leaflet have the same lively individual character as Vactric's advertising leaflets, and there is further evidence of it in exhibition and showroom displays.



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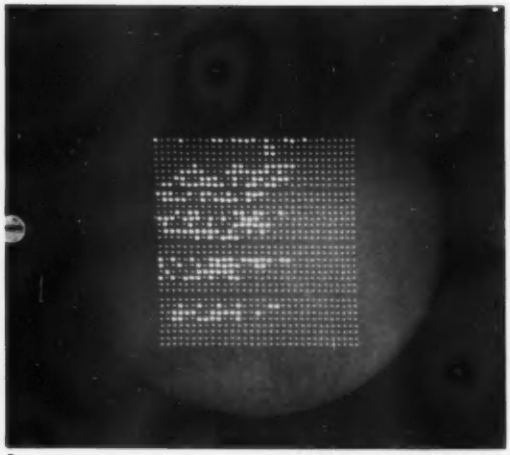

2

**1 & 2** There is a striking resemblance between the abacus and the oscillogram of a computer at work. This is not a coincidence but is indicative of similar working principles. Both the abacus and the digital computer are means of shuttling single numbers, or digits, from one storage position to another in the course of a calculation. Like the abacus beads the illuminated dots on the computer oscilloscope record numbers stored in the machine at a particular moment. (*Abacus: Science Museum, South Kensington.*)

# Anonymity and repetition

*The following article outlines the working methods of three types of digital computers – scientific, business and process control – and suggests that the factors governing their appearance are frequently misunderstood.*

J. CHRISTOPHER JONES

ALL DIGITAL COMPUTERS have five parts; an input, a store or memory, an arithmetic unit, a control unit and an output. All the calculating that is done is simple arithmetic. Even the most complicated mathematics is reduced to a long series of simple additions, subtractions, multiplications or divisions. In its operation the digital computer resembles the abacus, 1, in that it uses single numbers, or digits, which correspond to the abacus beads and can give any degree of accuracy if a sufficiently large number of digit stores (or rows of beads) is used.*

The digital computer, with which this article is concerned, differs from the abacus in one fundamental respect: its ability to carry out a programme of instructions. These are worked out by a mathematically trained staff of 'programmers' before the machine is set to work. As a result all the difficult brain work is previously carried out under ideal conditions and the machine itself does all the low grade work of dealing with the information immediately it becomes available.

The input through which information is fed in and the output from which the answers appear usually consist of devices with which we are already familiar. Teleprinters, punched tape readers and punched card equipment are most commonly used. As all these are too slow to keep up with the electronic parts of the machine, new high speed devices, such as the Ferranti tape reader, 17, have been developed. Like the teleprinter most of these machines are mechanical and tend to become noisy as speeds are increased.

Every digital computer has a store, or memory, in which the information and the programme are kept during a calculation. These vary greatly and the chief differences between one computer and another are the sizes and types of stores with which they are equipped. There are three levels of storage which resemble in some ways the division of the mind into conscious, semi-conscious and unconscious parts. The conscious mind corresponds to the fast access store in which a small amount of information is available for use in that part of the calculation that is being done at one moment. An example of this is the nickel delay line in which a

*There is another quite different kind of computer which is called the analogue and works more like a slide rule than an abacus, more like algebra than arithmetic. It deals with varying quantities instead of fixed digits and like the slide rule forms a tangible model of an equation or a state of affairs. It is cheaper, more flexible and less accurate than the digital computer and is used to solve the problems that arise in determining the effect of variations in a complex system of forces or events.

## Digital computors

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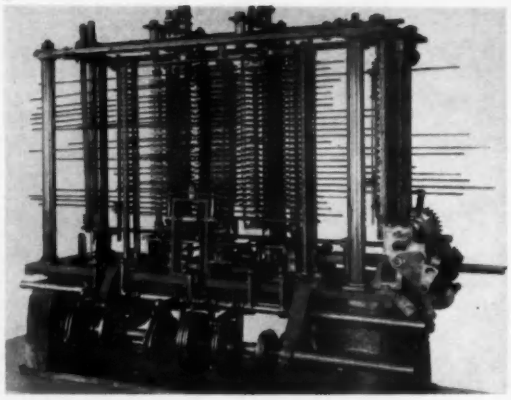

**3** Parts of the computing engine which was designed, but never completed, by the Cambridge mathematician, Charles Babbage, in the early years of the nineteenth century. This mechanical computer was so far ahead of its time as to include all the basic principles on which modern digital computers are built.
*(Crown copyright – from an exhibit in the Science Museum, South Kensington.)*

**4** Babbage's work was forgotten and it was not until 1937 that Howard H. Aiken at Harvard University made proposals for the design of a computer that would automatically follow a programme of instructions. This first modern digital computer was built by the IBM company for Harvard and, like Babbage's machine, was mechanical rather than electronic. The highly developed appearance of this experimental device is remarkable when compared with other laboratory prototypes.

**5** The 'Ace' pilot model at the National Physical Laboratory was one of the first computers to be built in this country. 'Ace' will be followed by a much larger machine, this time using Jack Howe as consultant designer.

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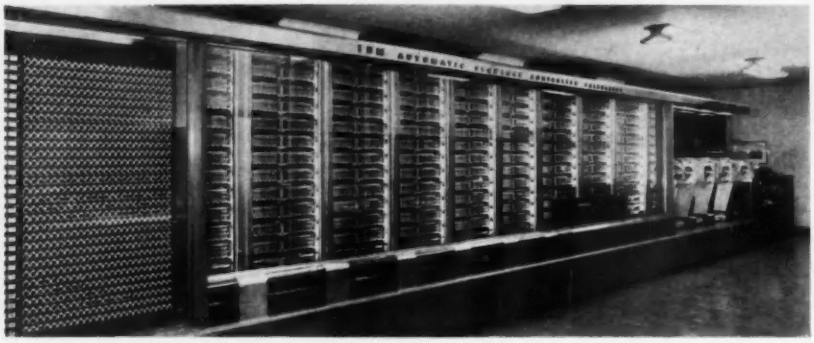

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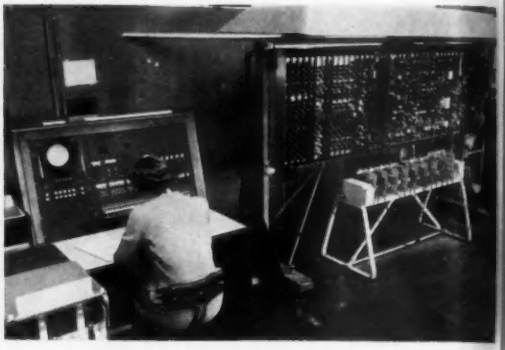

number is held in the vibrations of an electrically agitated wire. The semi-conscious mind corresponds to the medium access store, in which much more information can be retained but cannot be extracted quite so quickly. The magnetic drum, **16**, is very widely used for this purpose and is a means of storing numbers in magnetised spots on the surface of a rotating wheel. The unconscious mind corresponds to magnetic tapes or films, in which an unlimited amount of information can be kept, but from which one particular item can be extracted only by the lengthy process of running through the whole reel of tape until the right point is reached; a process similar to the psychoanalyst's. Many of the computers shown here do not have a magnetic tape store. Instead they use existing documentary records kept on punched cards or in filing systems. Only the largest business computers **13** and **15** can do without any paper records at all.

### Quick fault correction

This is a vital characteristic of all computers. The importance of minimising delay due to faults is to be measured by the high running costs – £5 to £100 per hour. In all cases this requirement fixes the arrangement of the computing parts. In the most recent designs interchangeable electrical circuits known as 'packages' are stacked in a row of tall cubicles like books in a shelf, **14**. This arrangement allows replacement of faulty packages with little delay. Many digital computers are built to this standard form.

Computers are of three types: scientific computers for the solution of new and lengthy problems, business computers (or data processing machines) which can replace clerks and filing systems, process control computers which can regulate the flow of automatic manufacture. Several of the British machines are adaptations of laboratory prototypes, eg **5**, and are chiefly intended for scientific use. This application calls firstly for good electronic design and in this respect the British machines seem to be as successful as the American computers and are very much less costly.

As scientific computers do very long calculations on a small amount of data, high input and output speeds are not so important and the conventional punched card or tape machines do very well. Business computers carry out a few short calculations on a large amount of data and require much higher input and output speeds than can be obtained from conventional equipment. Most American computers have been developed by business machine makers. Their business computers, such as the 'IBM 702', have the tremendous speed and capacity necessary for the establishment of a completely electronic office and are far larger and more expensive than any British machine. They follow the expenditure of up to one hundred times the money invested in computer development in this country.

Process control, or the use of a computer to regulate the whole of a manufacturing process, has hardly begun. A pioneer example is the use of a Ferranti computer to control the operation of machine tools

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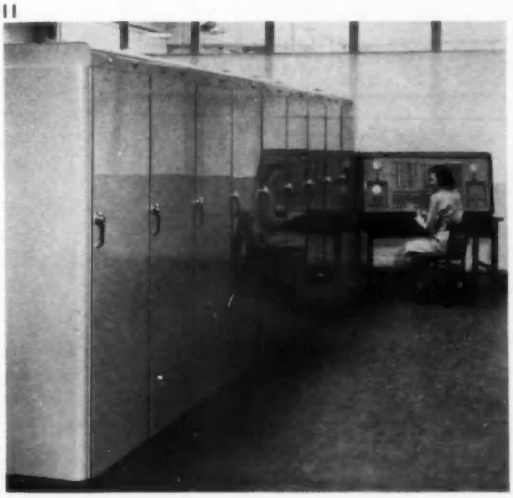


6 The Ferranti 'Pegasus' is a medium sized multi-purpose machine primarily intended for scientific work. The computing cubicles stand behind a desk that accommodates tape readers, a teleprinter and a tape punching machine which are used for the input and output of information.

7 A model of 'Mercury', a new Ferranti computer that has about four times the capacity of 'Pegasus' and is intended for scientific work. The computing parts are contained in the cubicles surrounding the control desk and the four cubicles on the right contain magnetic drum stores. The control unit and the cubicle exteriors are less showy than those of 'Pegasus' and give a more unified and modest impression.

8 The English Electric 'Deuce' is a medium sized computer for scientific work. The main computing parts are in the large cabinet at the rear. The conventional punched card machines flanking the control desk are used for input and output of information.

9 The 'Burroughs E101' is designed to fill the gaps between the standard desk calculators and the large scale digital computers. Scientific and statistical calculations that do not warrant the use of a large computer can be solved in stages. The keyboard input, and the programme boards on the right, enable the operator to intervene at any point in a long calculation.

10 The first electronic office in the UK was set up by J. Lyons & Co Ltd, which produced the computer 'Leo' for its own use. The operators deal only with conventional punched card machines and teleprinters, while the computer itself is separate and need only be accessible to maintenance engineers. This is the only British computer to have a long record of commercial use. A more advanced model, 'Leo 2', is now being manufactured for general sale.

11 The 'Elliott 405' computer is one of the few British machines to have been specially designed for office work. The cubicles containing the electronic components are independent units and can be extended to suit the requirements of a particular office. Its medium access storage can equal that of a large computer. It is the only British computer to have magnetic film input and output which gives it unlimited slow access storage. The prototype control desk shown here is not in its final form.

## Digital computers

12

**12** The prototype of the new 'Metrovick 950' computer. This is at present the only British machine employing transistors instead of electronic valves. It is intended for scientific and other applications and is of similar capacity to 'Pegasus' and 'Deuce'. Paper tape machines and a teleprinter are used for input and output. The simple sharp edged envelope of the electronic cubicles and the absence of symmetry are more in keeping with the dull work that is done by computers than are the imposing layouts and more elaborate cladding of some other machines.

**13** Office computers have been developed to a much greater extent in the USA. This 'IBM 702' electronic data processing machine, can do all the routine work of a large organisation and is much bigger and more expensive than any British machine. The assymmetrical control desk and the disintegration of the machine into separate informally arranged parts suggest that ergonomic requirements have largely influenced the design. This machine is being succeded by an even larger computer, the 'IBM 705'.

13

making computer components; almost a process of reproduction. This use of computers is of central importance to the development of automation, but not many special computers for process control have been evolved. Of the few that have been tried out, several are analogues and outside the scope of this article.

### Functional or glamorous exteriors?

If we accept the idea that the shape of a thing should arise out of its purpose we have a criterion by which to assess the appearance of these machines. Knowing that the purpose of computers is to do the dull routine work that is at present done by clerks we might expect the machines themselves to be dull to look at. This is in fact the case. The essence of a computer, the electronic core, is a row of identical steel cabinets. (The things that hold one's attention are the mechanical input and output devices which are separate from the computer itself.) It might even be said that the purpose of the large business computers is analogous to that of a sewerage system. They drain and channel away an undercurrent of low grade information and leave behind a simplified and clarified office routine that could almost be called hygienic. This system results in a controlled flow of filtered information that is like our purified water supply. Pressing the analogy still further we would expect the computers to be as self-effacing as drains and pumps and to be out of sight of persons using the system; the inlets and outlets alone being visible. Most of the computers illustrated are, in fact, in the same rooms as the input and output devices. But, there are indications that the electronic parts of future computers will be separated from the data origins and seldom encountered by users of the electronic office.

The simple exteriors that do in fact express this attitude towards computers modestly exploit the typical characteristics of machine art – anonymity and repetition. In these cases the designers have consciously or unconsciously taken a hint from the far more intense display of machine beauty that lies beneath a computer's skin, **14**. The sight of row upon row of intricate, identical components can be quite moving. But like the beauties of trees and sand and many natural objects they can remain comfortably unnoticed among the distractions of daily life.

### Design for the operator

Yet we must remember the tremendous fascination that computers have for us and the romantic background of electronic brain publicity against which they have grown up. The excessive attention which we give to these rather ominous machines is wildly unrelated to the dull work which they perform and has undoubtedly influenced the exterior appearance in many cases. We see the large radii, the chromium plate, the general

14

**14** Packaged circuits are stacked inside the 'Elliott 405'. This arrangement gives excellent accessibility and dictates the form of many recent computers. The endless repetition of identical parts is entirely characteristic and the image they form is far more natural and convincing than the exterior treatment of some of the computers themselves.

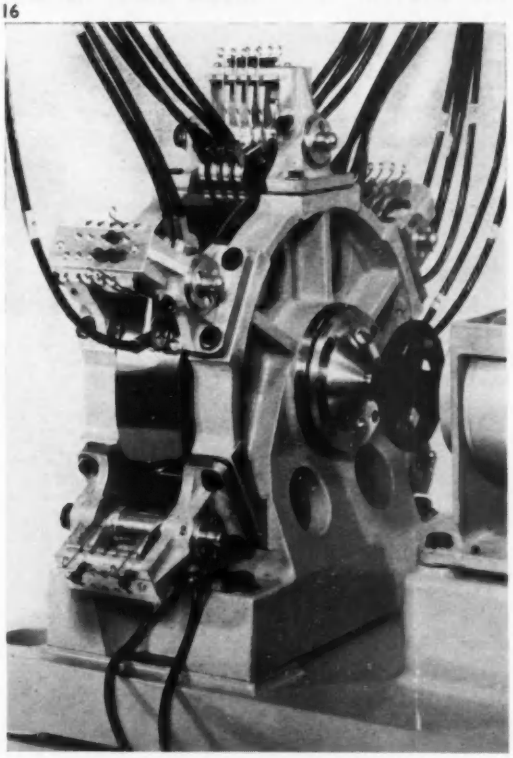
**15** The Remington Rand 'Univac' is another large American computer that is intended for office work. This version is called the File-Computer as it has a number of magnetic tape units, seen on the right, which give the large slow access storage that is necessary in order to accommodate within the computer the information normally kept in a filing system.

15

desire to create an imposing object, to dress a dull assembly of parts in the exciting clothes of the science fiction myth. But only a restrained and relatively straight-laced form of romantic styling has taken place – perhaps because the basically functional aesthetic of the computer is strong enough to assert itself despite the designers' intentions. Where this glamorous approach is absent there is no imposing symmetrical layout, no fat overpadded shiny glittering shell, – only neat and unobtrusive rows of sharp edged cabinets, and control positions unimposingly placed in a casual and informal relation to the whole.

The items that really do need the attention of industrial designers and of ergonomists are the input and output devices and the control desks. Many of these are of poorly conceived forms and at an early stage of development. The conventional teleprinters, for instance, were not specially designed for computer input and their curved forms betray their different origins and perhaps symbolise their eventual unsuitability. The inherent clumsiness of a mechanical input device seems incompatible with a computer when compared with the speed and simplicity of the newer inputs such as magnetic tape. As the requirements of operators become more critical and more clearly stated we can hope to see great changes and far more elegant solutions to the problems of feeding and controlling these machines.

16



**16** Nearly all computers use a magnetic drum for the storage of fairly large quantities of information with medium access times. This drum is part of the 'Elliott 405'; note the mechanical nature of this device, the form of which is more reminiscent of Victorian engineering than twentieth century electronics.

17

**17** The Ferranti paper tape reader has been specially designed for the higher input speeds needed to keep up with the fast calculating of digital computers. Several computers use this device and also the slower and more conventional teleprinters which look, and are, far less suited to this task – **6, 7, 12.** There is great scope for new thought in the design of faster and less noisy means of feeding computers, extracting the results and translating these into a readable form.

# Furnishing in the New Towns

Harlow Development Corporation

**CONSUMER NEEDS 2**

*After interviewing householders in five of the New Towns near London, Mrs Meade felt that manufacturers, local retailers and tenants were missing a unique opportunity in their approach to furnishing. The problem they face is a general one and not confined to New Town areas. Two articles in* DESIGN *for January suggested that designers and manufacturers need to know more about how their products are used; Mrs Meade goes on to ask why many retailers are not more alive to their clients' needs. The specific problems of the New Town areas emphasise the fact that closer contacts between maker, retailer and user could be profitable to all three.*

DOROTHY MEADE

I HAVE RECENTLY VISITED five of the New Towns near London – Crawley, Harlow, Hatfield, Welwyn and Stevenage – and seen over occupied houses in all of them. It was exciting to find that the care and attention which the architects and town planners have given to the visual appearance of every aspect of these New Towns have already made a strong impact on their new inhabitants. I noticed at once that the public, particularly children, were well dressed, public paths and greens remarkably free from litter, and most of the private gardens were carefully tended.

Photographs of interiors on pages 43, 44 and 45 are by Sam Lambert

I visited many houses in the New Towns, and found housewives tremendously proud of their homes. The amenities for the most part are excellent – kitchens are well equipped, all houses have a store room, there are usually two different forms of heating for summer and winter, coal and rubbish stores are inconspicuous but easily accessible, fitted cupboards are built in to very many of the bedrooms and there is complete agreement as to the ease of running the houses.

There is an interesting variation in house types – in Harlow alone there are over 200 different plans – as individual architects have been given freedom to experiment. Most of the houses have large, low windows, and, even in the smallest houses, the rooms seem light and open; there are many dual-purpose rooms – living/dining rooms, kitchen/dining rooms, bed/sitting rooms. I never had that boxed-in feeling which small houses of the inter-war years so often give, and none of the housewives I met had any but minor criticisms of their homes.

**An opportunity missed**

How about the furnishing of these new houses? With a few notable exceptions I felt that here was a wonderful opportunity missed. Not that the householders do not care about their homes; on the contrary, a housing manager to whom I spoke said that one of her troubles was that people were *too* houseproud. They were so busy improving their homes – painting, wallpapering, putting up shelves and fittings – that efforts to organise social activities met with poor response. No – in spite

of the fact that these families are young, energetic, ready to spend a lot of time and a fair proportion of their earnings on improving their homes, it seems that here a great chance was missed – by tenants themselves, by local furniture shops and also by manufacturers, none of whom seems to have tackled the problem with the same spirit of experiment and enterprise as the architects who designed the houses.

I think there are two big mistakes which many of the occupants have made in tackling the question of furnishing. The first is that they fight shy of open plan living. As a nation we like our privacy, and there is a strong tendency to shelter behind net curtains. Large windows are obscured by elaborate drapes and heavy pelmets, by dressing table mirrors and large settees. Corners are cut off by diagonally placed wardrobes and sideboards. By careful arranging and draping the open plan houses are being closed up again, light rooms are darkened and a feeling of spaciousness is reduced to cosy clutter. Not that there is anything wrong in a wish for privacy and cosiness. The pity is, I think, that in preventing others from seeing into their houses, people are preventing themselves from seeing out; in achieving cosiness they are completely at variance with the architects' achievements in giving them light and space.

**Inflexibility in furnishing**

My second general criticism is the lack of a more flexible approach to furnishing. One housewife, whose bedroom had a large fitted wardrobe and two voluminous four-ft wardrobes besides, said in answer to the suggestion that she could perhaps sell them: "You never know; they might come in handy". Meanwhile it was almost impossible to find standing space in an otherwise good sized room. Particularly in the case of these young and expanding New Town families, with changing needs and interests, the furnishing and arrangement of rooms should surely be changing too. The question of expense, of course, is a powerful reason for clinging on to unsuitable furniture, but this is no argument for housing bulky white elephants or for not choosing furnishings which will continue to serve the changing family needs.

Many of these new tenants would, I am sure, welcome advice on the interiors of their homes, and here the local furnishing retailers are letting a golden opportunity slip by. A really go ahead retailer, familiar with

The living/dining room of a young family. Great care has been given to all the furnishings in this small flat. The dining end of the room occupies the minimum space and the table tucks away in a corner. Although this is also used as an occasional spare room there is plenty of space and light.

RIGHT, ABOVE A carefully furnished living/dining room which preserves the openness of the architect's plan. This is the first house the owners had furnished and they wisely limited their choice to essentials.

RIGHT The architect and the tenant at variance – the large window is concealed behind the venetian blind, two sets of curtains and a double pelmet. The furnishings were originally chosen for an older house, and they illustrate a marked tendency, which was borne out in many other cases, to choose reproduction furniture for its cosiness.

Part of the New Town shopping centre in Crawley. In spite of the rapid development of these new shopping areas, the majority of housewives still buy their furniture in London.

the new houses he is helping to furnish, with a wide knowledge of the modern furniture market, and with a real enthusiasm for helping to raise standards, would find the field open for a flourishing concern.

All those retailers to whom I spoke agreed that their customers usually buy the basic furnishings before leaving London, which means in most cases the three piece and dining room suites, living room carpet and curtains. The chance of entirely equipping a new house very rarely comes their way. It is a year or more later, when the financial pressure of moving house has eased, that the second buying spree begins. But many of the housewives to whom I spoke still went back to London for their furniture shopping, because they could not find what they wanted locally. The local retailers, if their trade is to expand, must cut down these trips to London by offering the public a more suitable choice nearer at hand.

There are many ways in which this could be done. It would be useful if the local retailer offered an advisory service for customers, with a large stock of samples and photographs. If one firm is unable to cover all branches of furnishing it could perhaps link up with other local retailers, in advertising and exhibitions, to give a comprehensive service to the public, with special exhibitions of furniture particularly suitable for these new houses. Tiny entrance halls, for example, are fairly standard, in order to gain space for the living areas. They need careful furnishing, and here the retailer could help by showing selections of hat and coat racks, mirrors, wall shelves, lampshades, wallpapers, and curtaining set up as existing hall layouts by using simple screens. Furniture particularly suitable for dual-

A window display in the John Perring store at Crawley. An attempt has been made to set up a corner of the shop as a New Town living room, showing unit furniture. The result is uninspiring, even though this was one of the most enterprising of New Town retailers.

purpose rooms could be shown with suggested colour schemes and alternative layouts. The part-exchange of old furniture for new could be arranged in conjunction with a second hand dealer, for if there were any easy way of disposing of white elephants many people I think would do so. Such ventures as these, backed up by local advertising, would surely be of value to retailer and public alike.

In fairness it is true that some retailers are already offering considerable guidance to customers who seek it. One large store I visited has prepared a brochure for prospective home planners, with manufacturers' leaflets, scaled paper for room plans and a chart to help them in the selection and arrangement of furniture. The store also offers advice on colour, but since it does not stock wallpapers, light fittings or furnishing accessories this cannot be a complete service.

**Furnishing showhouses**

Showhouses are probably the best way of displaying furnishings to advantage, and builders with new houses for sale find them a valuable aid to selling. I saw three in my recent visits: in Crawley a house furnished entirely by a local retailer compared very unfavourably with its next door neighbour furnished by a London store (see below). Very little thought had been given to the suitability of the furniture chosen, to colour schemes or layout, and large price tickets were peppered about the rooms. The second house, with an open plan ground floor, was furnished with modern as opposed to mainly traditional furniture, and with far more care and attention to detail. A house in Harlow (page 46), furnished by a local retailer to the exact requirements of development corporation architects, showed a much firmer grasp of the problem, far better use of the space available and a more discriminating choice of furniture than either of the others. Surely if it is worth doing at all, it is worth doing well.

Finally, are manufacturers providing the right kind of furnishings at the right prices for these new tenants? The cheap 'contemporary' wallpapers, of which there is a wide choice, are ideal for these settings if used in the right way. Curtain materials need to be cheap, for large windows multiply the yardage alarmingly, but there is a variety of moderately priced fabrics to choose from, although the cheaper fabrics are nearly all designed with small repeats, and customers wanting large patterns for big windows found the cost was considerably higher.

Light fittings were criticised by many housewives, mainly because of cost. I think the difficulty manufacturers are up against is that light fittings are generally the last item of furnishing to be bought, when the budget has already been sorely tried. Many of the fittings I saw were too big and bulky for their setting, and this was particularly the case with central living room lights. 'Cone' fittings and 'Rotaflex' shades were used by many, but the choice of cheap, small light fittings is limited and time and again I found that housewives had resorted to making their own shades in order to get what they wanted.

Floor coverings do not appear to raise much difficulty. Most houses had plastic floor tiles on the ground floor, so that only rugs are necessary, although some housewives grumbled about the time they had to spend on polishing the tiles. Upstairs rubber-backed

BELOW, LEFT A showhouse in Crawley furnished by a local retailer. Even this corner of the living room shows what a chance has been missed. It seems as though a random selection of pieces which were not wanted in the shop has been used.
BELOW, RIGHT A showhouse in Crawley furnished by a London firm. (The pseudo-coal fire and stylised bookshelf are, alas, standard fitments provided by the building contractor.) The furnishings here are much more carefully considered, though the bulky three piece suite overpowers the room. The colours are good, and the pictures and ornaments help it to look lived-in.

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**Furnishing in the New Towns**

carpeting was often used, or the boarding was treated with plastic polish. Stair carpeting was usually the main expense; this was often spoilt by ugly clips or by rods which wasted a good inch of the treads.

**Opportunities for new designs**

I was glad to find that unit furniture sells well in the New Towns, for its flexibility is suitable for many family needs. And in general I would say that most of the furnishing requirements are available on the market if one knows where to find them. But there is plenty of scope for new thought and a closer link between manufacturers and their young New Town public. On my visits I wished I had with me a party of enterprising manufacturers, for there are many gaps which I do not believe are being filled. Where, for example, is the modern dining table suitable for these living/dining rooms? So often a large dining table, with chairs, permanently occupies about half the living space so that one large room is virtually two, with the party wall removed. A table which easily folds down to a minimum size and stows against a wall would allow the whole room to be used as a living area. Small scale furniture for the hall is hard to find; a wall drawer-and-mirror fitment for gloves, clothes brushes, etc, is needed in most halls, or specially narrow tables and chests. There are very few well framed mirrors, and these could do a lot to increase the feeling of space. More cheap light fittings are an urgent need. Enterprising husbands are solving many of these problems for themselves, and showing up just what the manufacturers are not providing.

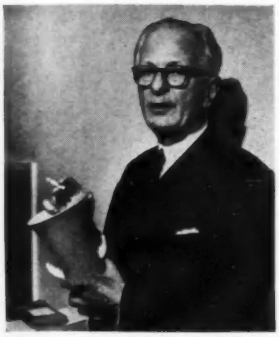
It is a pity that the development corporations – who are so closely in touch with the tenants of the New Towns and alive to their problems – are not able in some way to advise newcomers who are setting up home for the first time on some of their furnishing problems. The corporations already cover an enormous field, and how people furnish is not their concern, but it might be possible for them to distribute to those interested a booklet of advice and ideas. The Swedish government issues a booklet 'Skapa och cöpa till hemmet' ('Making and buying for the home') to help new home makers, and I think there is a great need for such help over here, particularly in the New Towns where there are many common problems.

A shopping centre in Harlow. With co-operation from manufacturers, these New Town areas could provide the enterprising retailer with a real opportunity to raise furnishing standards.

Part of a showhouse furnished by Sheratons of Harlow to the specifications of Harlow Development Corporation. The furniture helps to emphasise the openness of the planning. This plain, well proportioned fireplace is typical of those installed in the New Towns.

# Raising the designer's status

*The Faculty of Designers for Industry was established on the initiative of the Royal Society of Arts in 1936, and was later granted the use of 'Royal' in its title. The Faculty is limited to 40 members and the distinction of 'Royal Designer for Industry' is conferred upon "persons who have attained high eminence and efficiency in creative design for industry". The annual oration of the Faculty was given last year by* SIR GORDON RUSSELL, *director, CoID, who is himself an RDI, and a past master of the faculty. The title of the oration was 'The Designer's Status in Industry', and extracts from it are given below.*



Sam Lambert

Keith Murray is one of the original members of the Faculty, and was elected for his designs for pottery, glass and silver. He is seen here holding one of the vases he designed for Wedgwood in 1939.

SIR GORDON RUSSELL first recalled the events which preceded the foundation of the Faculty of Designers for Industry in 1936, and Sir Henry McMahon's speech at the Royal Society of Arts that year when he, as chairman, advocated an academic distinction to enhance the status of designers for industry. Sir Gordon continued:

"It will be seen that 20 years ago the stage was being set in many different ways for a great improvement in the designer's status. But meantime let us look for a moment at how that complex organisation known as British industry then set about designing goods. In different firms at least 10 approaches were more or less common; there may have been more..

"Firstly, an imaginative attempt to solve the problem in all its aspects – the use to which the article will be put, its method of production, suitability of materials to be employed, quality of workmanship, how it will be sold, packed and serviced, and last but by no means least important, the pleasure it will give in use. Seldom was all this achieved at one time. In fact good designs nearly always arise by a striving for perfection over a considerable period. . . . One could call this method of approach first rate modern design.

"Secondly, the imitating of this method, without realising what the imaginative designer is trying to do. This I call modernist. We all know the speculative builder who 'went modern' overnight, flattened his roofs, put his windows at the angle of the house and fitted a flush front door with a spiky knocker that was unpleasant to hold. Meantime, the plan, which was seldom related to real living needs, remained exactly as before. The same thing is happening today in other trades, especially in furniture, so beware of confusing modern and modernist, both of which are often indiscriminately labelled 'contemporary'.

"In the great depression of 1930 in America some firms discovered that the young profession of industrial design could become a powerful sales asset. This was a discovery to be welcomed. But when the advertising man, to force the pace, insisted on purely superficial styling for obsolescence he fostered a craze for novelty which has had lamentable results as far as real design improvement is concerned. The wish to give some individual quality to designs which were regarded as purely ephemeral and which would be forced on to the scrap heap at the earliest possible moment, has led to such oddities as 'personalizing' them by a signature or name in writing which would be a disgrace to an infant school. Appearance design is the description often applied to this method. It is an unfortunate term, leading engineers to believe that industrial designers are only concerned with what one sees, whereas what one sees is profoundly affected by what one does not see. A good sculptor is always aware of the bone structure.

"Reproducing traditional designs was obviously an attractive method to many manufacturers for, whereas no designs cost much 20 years ago, these cost nothing. It is important to discriminate between old designs whose quality was seriously impaired by making by machine, such as Gothic and other carved furniture, and those in which beautiful shapes or printed patterns could still give great pleasure in use. I refer to some English floral pattern textiles, pottery such as Wedgwood's 'Queen's Ware', wine glasses and tumblers, buckets and tools, which have not been out of production for more than a hundred years and still cannot be bettered.

"Fifthly, there are caricatures of old designs, adapted by unimaginative hacks from beautiful originals. For example, in the furniture trade anything with a double curved leg was labelled Queen Anne, anything with a bulbous leg was Elizabethan, or with a spiral leg Jacobean. Today anything with a peg leg is 'contemporary'.

"Engineering design is nearly always sound and honest but often aesthetically weak, because visual appreciation of any kind has been crowded out of the engineer's curriculum – though it is coming back in Italy, Switzerland and the USA at advanced schools such as the Massachusett Institute of Technology. It seldom costs more to use a good shape instead of a bad one, good texture instead of bad.

"Then there is flaunting, exuberant vulgarity. Don't despise this. It adds spice to life and is not to be confused with the shoddy vulgarity of soul so proudly displayed in the shop fronts of most of the multiple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## The designer's status

stores, with a few notable exceptions. I am thinking of the vulgarity of, say, the circus poster which is composed of lettering which can hardly be defended as such and yet gives me a delightful anticipatory feeling of sawdust, clowns, packed crowds and the muffled roar of lions. For its purpose it is an admirable notice and to me would be spoiled if set impeccably in such a lovely type as Gill's Perpetua. The solid, honest, comfortable, cut-glass-and-mahogany vulgarity of the Victorian pub has so often been ruined by filthy contraptions in black glass and chromium plate.

"And lastly we have always had with us the 'practical' man of business who plugs along in a ham way without realising that the designing of goods presents any problem at all. Occasionally he makes a sketch furtively of one of his competitor's articles in a shop window and hands it to his foreman who, however, normally carries on without such dubious aids.

". . . . . Are all the methods of designing I have mentioned still in use? Yes, and probably will be for some time to come, for there is something like two generations' difference in the thinking of the best and worst firms in any trade. But there has been a notable change in the *proportions* in which such design approaches will be found – the increase in good designing has been marked and is steadily mounting. The status of designers has certainly improved.

"During the same period the Faculty of Royal Designers for Industry, with the active help and encouragement of its parent body and especially of the Royal Presidents of the R S A, has acquired a personality of its own. The faculty has been able to forward the cause of industrial designers as a whole in various ways; it has regarded this as its principal function from the beginning.

"It is inconceivable that the setting up of the Council of Industrial Design by the Board of Trade, the Festival of Britain in 1951, the Coronation decorations whose high standard was set by the Ministry of Works, the establishment of The Design Centre in the Haymarket, the adoption of a design policy by the British Transport Commission, or the astonishing improvement in printing on the part of H M Stationery Office, could have taken place 20 years ago. It is with pride that I can record that Royal Designers for Industry have had a hand in all these high spots, more frequently perhaps as advisers than as designers."

In conclusion, Sir Gordon urged the designer to become acquainted with all the facets of his firm's work: "No designer can hope to raise his status if he thinks purely in terms of design, and every designer can do something by lecturing, broadcasting, writing, attending key committees and in other ways to make his point of view clear to his patrons. At present the burden of such work is borne by too small a band of devoted designers, partly because the significance of the patron in raising their status is at present greatly underestimated, even entirely unapprehended.

"In my opinion, the status of designers will be determined by designers themselves. At the moment a golden opportunity to raise it is before them. But it will call for hard work and there are no short cuts."

Colin Tait

At the 1956 oration meeting, Reynolds Stone (right), the most recent member to be elected to the faculty, received his R D I diploma from Dr Robert W. Holland, chairman of the Council of the Society. The distinction was conferred on him for lettering, and his work includes the Minerva typeface, the Queen's cypher, the facia lettering for Dolcis shops, book decoration and illustration.

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## Members of the Faculty of Royal Designers for Industry

THE MASTER: Milner Gray

Barman, Christian *Design for transport*
Bawden, Edward *Graphic design*
Capey, Reco *General industrial design*
Casson, Sir Hugh *Exhibition design*
Coates, Wells *General industrial design*
Cooper, Susie *Pottery design and decoration*
Craig, E. Gordon *Stage design*
de Havilland, Sir Geoffrey *Aircraft design*
Fox, Uffa *Small boat design*
Freedman, Barnett *Graphic design*
Furse, Roger *Stage and film décor*
Gardner, James *Exhibition design*
Giles, J. Laurent *Yacht design*
Goodden, Professor R. Y. *General industrial design*
Grant, Duncan *Printed textiles*
Gray, Milner *Packaging*
Grieve, E. W. *Shop window display*
Havinden, Ashley *Commercial art*
Heal, Sir Ambrose *Furniture*
Holden, Charles *Design in connection with transport*
Irving, Laurence *Design for film settings*
Lyons, Sir William *Motor car design*
McNeill, Sir James *Ship design*
Marx, Enid *Pattern design*
Metcalfe, Percy *Medals and coinage*
Meynell, Sir Francis *Typography*
Molyneux, Edward *Dress design*
Murray, Keith *Glass, pottery, silver*
O'Rorke, Brian *Interior decoration*
Ottaway, Eric Carlton *Road passenger vehicles*
Purvis, Tom *Commercial art*
Race, Ernest D. *Furniture*
Read, A. B. *Lighting fittings*
Russell, Sir Gordon *Furniture*
Russell, Professor R. D. *Furniture and general design*
Stone, Reynolds *Lettering*
Taylor, Fred *Commercial art*
Wallis, Barnes N. *Aircraft design*
Waterer, John W. *Leather goods*
Zinkeisen, Anna *Commercial design and mural painting*

## Honorary Members

Aalto, Alvar (Finland) *General Industrial design*
Farina, Pinin (Italy) *Motor car design*
Gropius, Walter (U S A) *General industrial design*
Hald, Edward (Sweden) *Glass*
Loewy, Raymond (U S A) *General industrial design*
Rasmussen, Steen Eiler (Denmark) *General industrial design*
Sampe, Astrid (Sweden) *Textiles*
Teague, Walter Dorwin (U S A) *General industrial design*

# Overseas Review

## *Convertible bed settees*

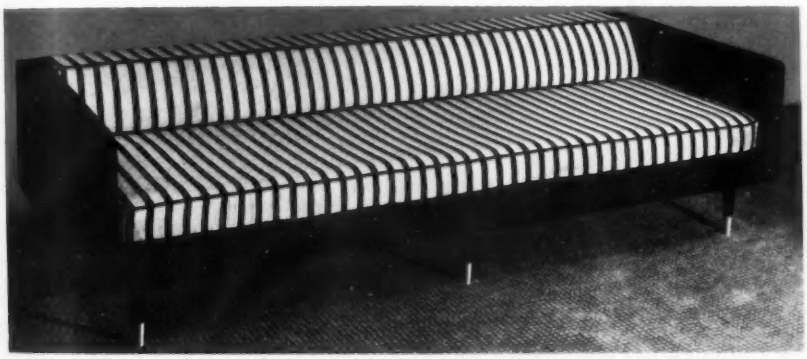
JOHN E. BLAKE

CONVERTIBLE BED SETTEES are not new. They have existed in a variety of forms since at least the nineteenth century when the simple drop arm versions provided an adequate, if not very comfortable makeshift for the unexpected guest or the overspill from a Christmas family gathering. Since then ingenious and complex mechanisms have been evolved in an attempt to convert an innocent looking sofa into a fully sprung, full width double bed. Almost without exception, however, these designs have been cumbersome and extremely ugly in appearance.

Today the need for multi-purpose furniture of all kinds has increased enormously as living space in new houses and flats has become more cramped. At the same time the appearance of lightness which is characteristic of the modern trend in furniture design does not lend itself to interpretation in terms of the fat upholstery often necessary to conceal an elaborate folding mechanism. On the Continent the development of this type of furniture within a modern idiom has been more extensive than in Great Britain, and a wide variety of designs is available. A published report on the investigation into the minimum dimensional requirements for beds, carried out by Svenska Slöjdföreningen in 1950, has emphasised the necessity for more widespread production of bed settees, and other space saving devices, for it was estimated that the majority of families in Sweden used the sitting room to sleep in. Paradoxically, however, the Swedish bed settees that are now available are less imaginative in design than some examples from Germany, Denmark and Italy. France has also paid particular attention to this problem, in spite of an apparent lack of enthusiasm for modern interiors generally. In Great Britain, though Dunn's of Bromley has produced a modern bed settee since 1953, it is only during recent months that other British firms have set out to meet this design challenge from abroad.

### Day beds

Three main principles are involved in existing types of bed settee. By far the largest group comes under the

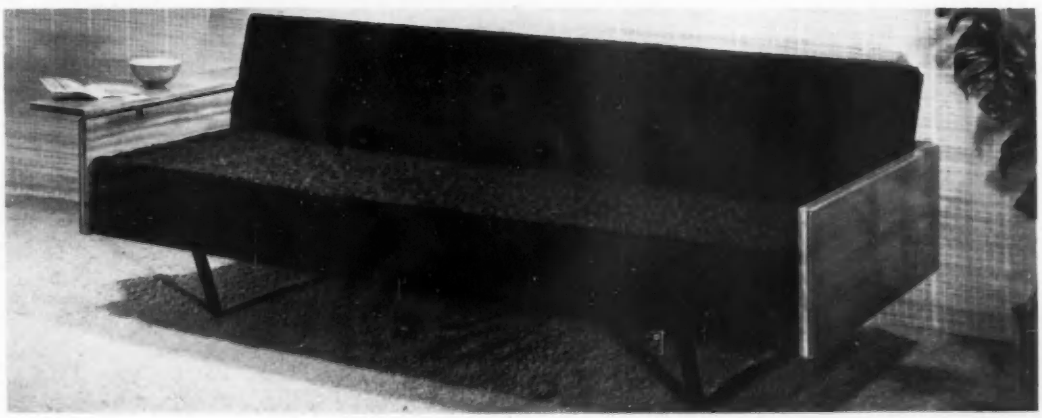


**DAY BEDS**

*The wide variety of systems which have been used in convertible bed settees of this type can be seen in the following examples from eight countries. With one exception they are all designed to convert to a bed for one person only.*

**Great Britain** The deep back rest is hollow inside and designed to contain the bedding during the day. It hinges out of sight to provide a full-width single bed, the arms forming upholstered head and foot boards. MAKER *Fambridge Furniture Ltd. From* £70 14*s*.

**Great Britain** The operation here is similar to the model above though the back hinges to form a raised side to the bed. There is no provision for storing bedding during the daytime. DESIGNER *Robin Day*. MAKER *S. Hille & Co Ltd. From* £55.



Retail prices quoted include purchase tax

heading of day beds, based on a fairly conventional single divan bed of normal width (i e, about three feet). To provide a comfortable sitting position the backrest has to be placed well forward of the near side and can either fold back on hinges, be completely removable, or be attached to the wall so that the bed is pulled away from the wall at night. Though simple to operate they usually have two chief drawbacks – they take up more space than a normal settee, and they tend to look more like *converted* beds than *convertible* bed settees. These drawbacks can be avoided where a day bed is intended primarily for the casual visitor and the width can be reduced to two feet six inches or less.

**Fully upholstered bed settees**

The second group consists of the more elaborate type of fully upholstered settee which can be converted into a double bed. Though many varieties exist few would fit well into a modern interior. They are more complex to operate than the day bed and tend to have the opposite drawback of looking like a converted settee when used as a bed. Even the most sensitive designs, such as the sofa bed by George Nelson for the Herman Miller Furniture Co, USA (page 52), look bulky and would overcrowd the small sitting room where they are most likely to be required.

**Hingeing bed settees**

The final group has few of these drawbacks and seems in every way to be preferable to the other types. The principle is extremely simple, consisting of a seat and a back which are hinged along the line where they meet, the back being folded down to form the other half of the bed. For sitting they take up no more room than permanent settees, and at the same time provide seats of a comfortable depth. For sleeping they look like normal beds and avoid the disjointed appearance which results from the arms and back left over from their previous purpose. In spite of these advantages it is surprising that so few bed settees of this type are made. The 'Tecno' design from Italy is outstanding, but very expensive. The only example from Great Britain is a student project made at the Royal College of Art. If this design were manufactured its simplicity might result in a much cheaper product than the existing bed settees now available on the British market.

**Storage for bed clothes**

Bed settees which are intended for permanent use seldom solve, and mostly ignore, the problem of where to store the bed clothes during the day. Though the examples on pages 51 and 52 are perhaps the most successful they can only be applied in special cases. The attempt to integrate a third function into a design which has already many difficulties to overcome is probably wrong, and alternative solutions should be sought. Many families would rather keep the bedding elsewhere than struggle with some of the storage arrangements that are provided. What is needed is a special cabinet, designed as an optional extra, which could be used either in conjunction with the settee or independently in another part of the room.

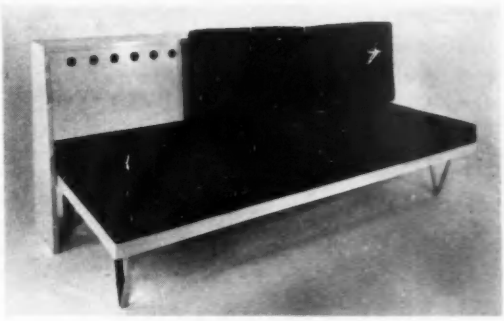
In this article four British bed settees are illustrated with examples from seven other countries.

DAY BEDS *continued*

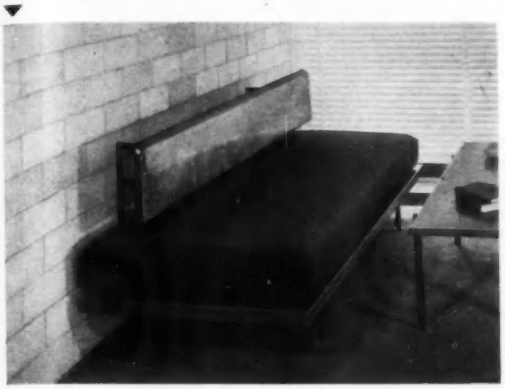
**USA** In this design the back is fixed to the wooden frame and the bed pulls forward to reveal its full width. MAKER *Jens Risom Design Inc.*

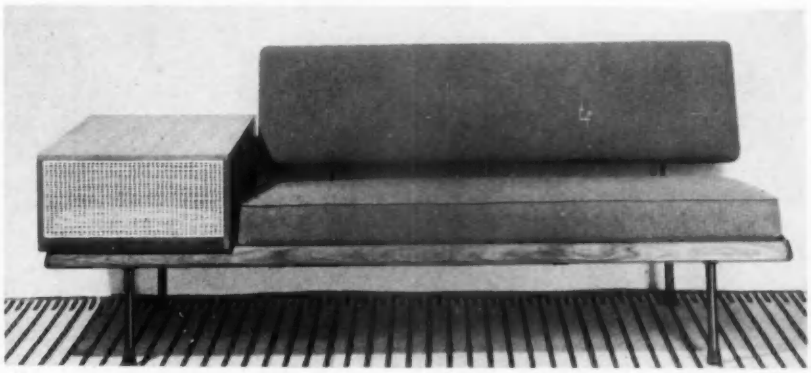
**USA** An unusual feature is the slope of the seat from front to back to give a more comfortable sitting position. To provide a level surface when the bed version is required, the wedge-shaped seat cushions are reversed. The back cushions are turned over the fixed back rest to give the full width of the bed. DESIGNER *Edward Wormley*. MAKER *Dunbar Furniture Corp.*

**Germany** The bed in this design is pulled out from the cabinet attached to the wall. The back cushions are removable and rest against the front of the cabinet which opens to provide access for the storage of bedding. DESIGNER *Professor Herta-Maria Witzmann.* MAKER *Holz GmbH.*

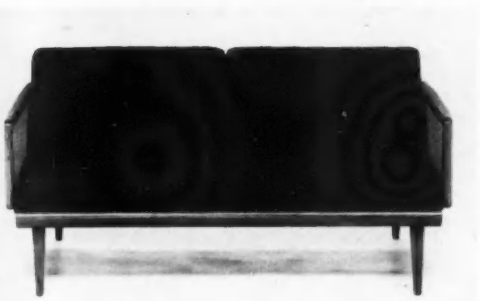


**Germany** A standard sized divan bed is again used in this design. The back swivels sideways to lie flat against the wall. MAKER *Casa GmbH.*

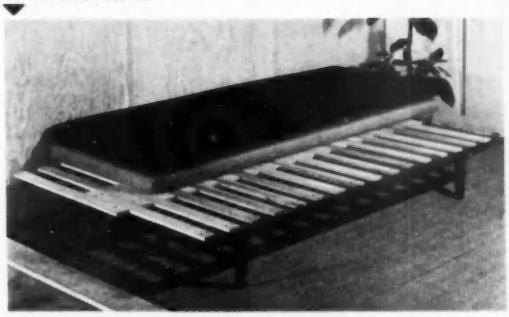




**Denmark** Here part of the mattress is contained within the removable box which also houses the bedding. This is one of the most successful storage solutions but, as in some other examples where there is an attempt to integrate a third function, the design is less satisfying at night than in the day time. DESIGNER *Hans Olson.* MAKER *V. Birksholm.*

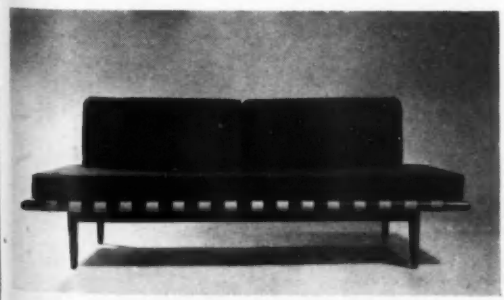


**Denmark** Though more an extendable bed than a convertible bed settee, this design shows an ingenious method of expanding a normal daybed to double bed width. It could be used in conjunction with a wall fixed backrest or many of the other types of folding backrest illustrated in this article. DESIGNER *I. B. Bylander.* MAKER *Soren Horn.*



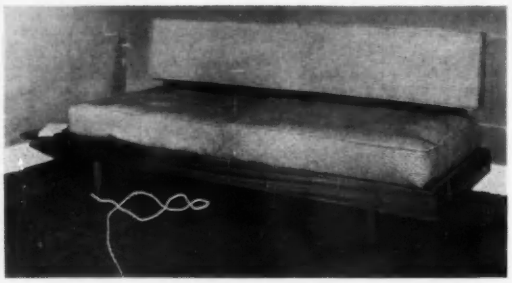
**Denmark** The principle here is one of the oldest in convertible bed settees, the arm rests being designed to hinge downwards and the back cushions being used for head and foot extensions of the mattress. The design allows a much shorter settee than other types. DESIGNER *Peter Hvidt and O. Molgaard Nielsen.* MAKER *France & Daverkosen.*

**Canada** The rubber webbing upholstery is laced around the walnut frame of this day bed and becomes a decorative feature. The back cushions are removable. DESIGNER *Robin B. Bush.* MAKER *Robin Bush Associates Ltd.*



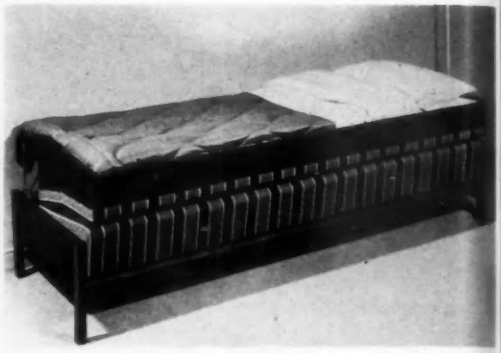
**Italy** The seat in this design pulls out from the thick, shaped backrest on a telescopic framework. DESIGNER *Marco Zanuso.* MAKER *Arflex. Photo: Vender Federico.*

DAY BEDS *continued*



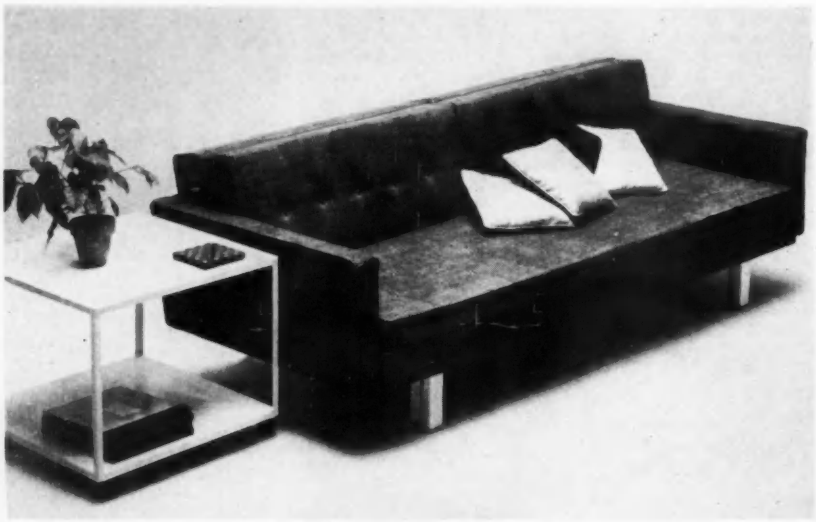
**France** The backrest swings over the two wooden supporting members to lie flat against the wall. At the same time, pull-out hinged flaps at each end of the bed, used during the day as side tables lift up to form head and foot boards at night. DESIGNER *Rozier*. MAKER *TMA*.

**Sweden** An unusual principle has been adopted in this design. The completely made up bed is housed inside the high back which swings over to rest on the seat. The slope of the seat and back are at complementary angles so that when they come together the bed is horizontal. MAKER *AB Eilas*.

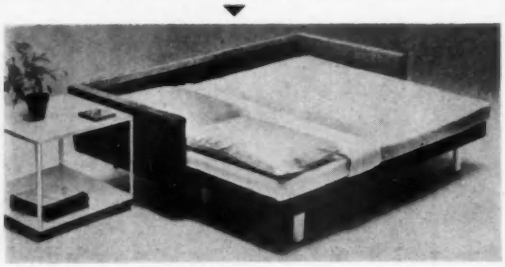


## FULLY UPHOLSTERED BED SETTEES

*The two examples illustrated here have avoided the gross proportions common to this type of furniture. They normally convert into a full double bed, but even the most carefully worked out designs betray their dual purpose.*



**USA** This design is much larger and works on a different principle. The seat pulls out like a drawer and two thicknesses of back cushions are used to form the second half of the mattress. Though few fully upholstered bed settees can rival its simplicity of proportion, even here the thick metal legs and deep back cushions proclaim a disguise which is not entirely convincing. DESIGNER *George Nelson*. MAKER *Herman Miller Furniture Co.*



**Great Britain** The 'Put-U-Up' range is one of the best known in this country. This example avoids an unduly heavy appearance. The seat cushions are removable and by a lever mechanism the top mattress is pulled upwards and forwards. DESIGNER *W. J. Cornell*. MAKER *Greaves & Thomas Ltd. From* £49 19*s*.

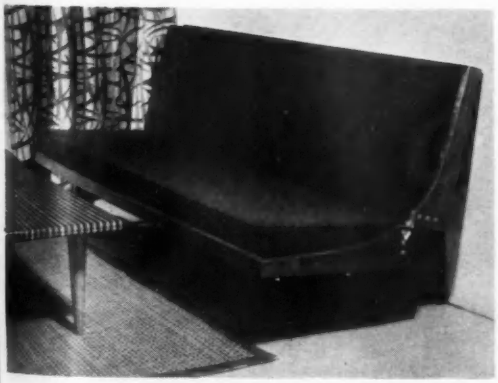
## HINGEING BED SETTEES

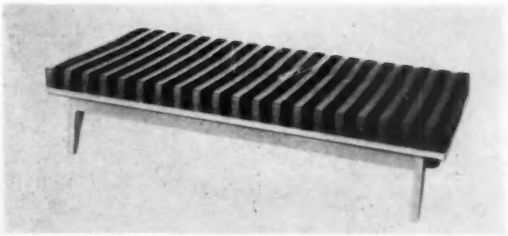
*The simple hingeing mechanism which is the basis of the following examples can result in designs which look as light and elegant as a normal modern sofa and take up little more room. They convert into double beds and in most cases avoid the appearance of makeshift arrangements which are common in the previous two groups.*

**Great Britain** Although several designs based on this principle exist in the United Kingdom, none is as satisfying in appearance as this student design from the Royal College of Art. The back cushions form the other half of the mattress. DESIGNER *Robin Wade.*

**Italy** All the elements of this design spring from a central axis, giving the design a feeling of balance and poise which is a logical expression of the system used. Both seat and back are permanently upholstered and require no rearrangement of cushions, but the lack of a separate framework under the mattress (to tuck in blankets and sheets) is a disadvantage in a cold climate. DESIGNER *Oswaldo Borsani.* MAKER *Tecno.*

**Germany** Based on a simple folding mechanism rather like a deckchair, this design has a low back giving a slightly narrower bed than in the other examples shown here. MAKER *Domus K.G.*





**Sweden** Less elegant than the Italian design, this example has a sturdy simplicity that is practical and satisfying. The separate underframe allows the user to tuck in both blankets and sheets. DESIGNER *Kerstin Holin-Holmquist.* MAKER *H.K.S. Mobler o Inredn.*

# *Golden Compasses 1956*

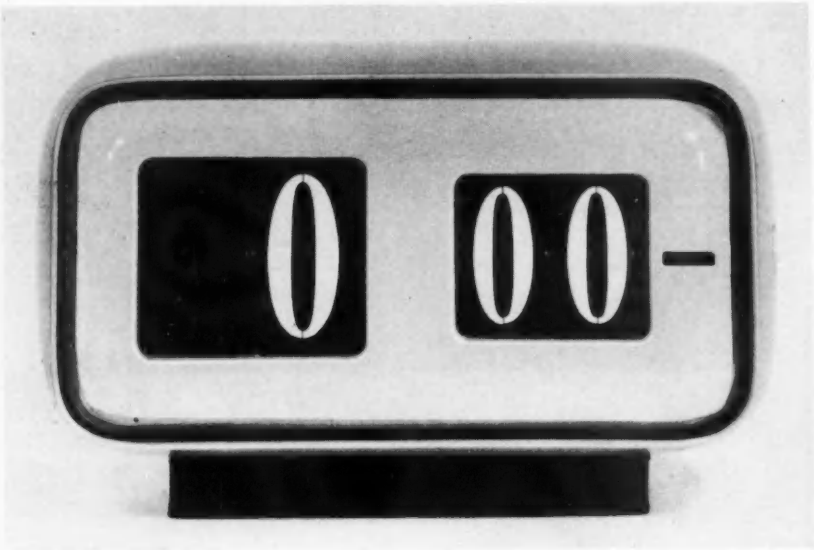
DESIGN correspondent Letizia Ponti

## *Italy*

Part of the exhibition erected in the magnificent Circolo della Stampa, Milan.

The Golden Compasses competitions for industrial designs, which have been held during the past two years by La Rinascente, the largest department store in Italy, have now become an annual event which provides a fresh opportunity each year to see the best in Italian design. Any Italian product which would normally be sold in a department store is eligible for the competitions and up to 20 'Golden Compasses' may be awarded to manufacturers whose products have been selected for their outstanding design by a jury. The designers of the chosen products receive a monetary award and a 'plate of honour'. This year only nine awards were made compared with 12 last year and 15 the year before. A selection of some of the products submitted was exhibited in the Circolo della Stampa, Milan where the modern style of the display frames contrasted strangely but effectively with the scale and grandeur of its Baroque setting. Two of the winning designs with some other products shown in the exhibition are illustrated here.

1



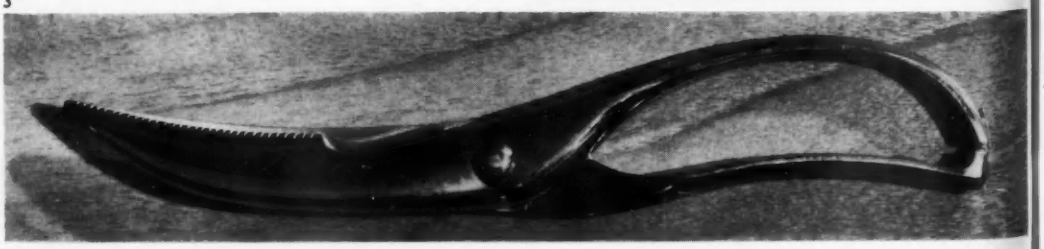
2

1 'Cifra 5' electric clock, 'Golden Compasses' winner. DESIGNERS *Gino and Nani Valli, John R. Myer and Michele Provinciali.* MAKER *Solari R e C.* UK AGENT *General Signal & Time Systems Ltd.*

2 Polythene bucket, 'Golden Compasses' winner. DESIGNER *Roberto Menghi.* MAKER *Smalterie Meridionali.*

3 Poultry shears in stainless steel. DESIGNER *Professor Antonia Campi.* MAKER *Ermenegildo Collini.*

3



4 Mobile kitchen storage unit in plastics covered wire. MAKER *Metaltex*.

5 Table lamp with white plastics diffuser. DESIGNER *Mario Pasetto*. MAKER *Stilux*.

6 Electric coffee grinder. DESIGNER *Guiseppe de Goetzen*. MAKER *Flli Chiminello*.

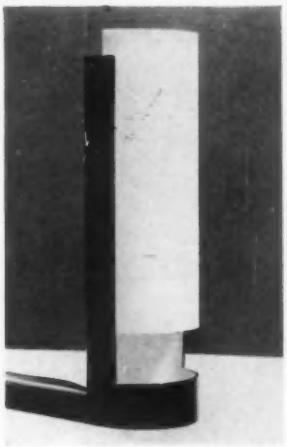
7 Writing desk. DESIGNER *Paolo Tilche*. MAKER *Arform*.

8 Polythene jugs. DESIGNERS *Guiseppina De Matteis and Roberto Aragno*. MAKER *SILT*.

9 Glass table lamp. DESIGNERS *Paolo Venini and Massimo Vignelli*. MAKER *Venini*.

4

5



6

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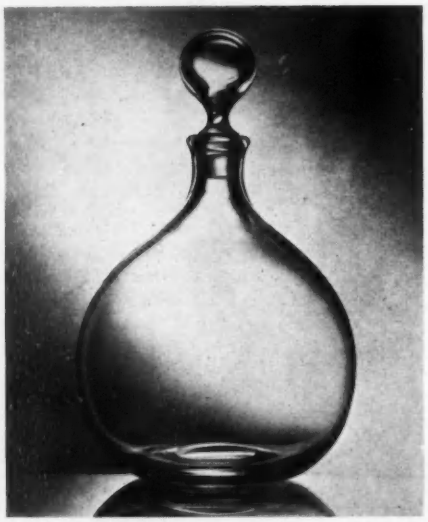
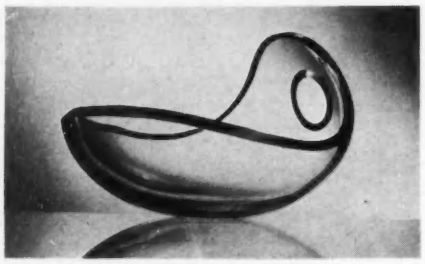
9

# Miscellany



*Royal College of Art. Lead crystal decanter with blown stopper by Pamela O'Connell.*



*Edinburgh. Wheel cut bowl by Eleanor Grubb.*

### Glass from three colleges

An exhibition of glass from the Royal College of Art, the College of Further Education, Stourbridge, and Edinburgh College of Art, organised last year by the Glass Manufacturers' Federation, revealed an imaginative talent among young designers that seems to have developed in three distinct streams. Blown glass from the RCA was largely undecorated with a feeling for simple traditional forms, though there were also examples of bent glass dishes with flashed and engraved decoration. In their search for new decorative treatments, Stourbridge students reflected more directly the characteristics of the local industry, but with an emphasis on engraving rather than cutting. At Edinburgh experiments with blown globes cut into free, flowing forms showed the variety of expression that can be achieved with this medium.

There is undoubtedly room to develop these different approaches to glass design, and the exhibition showed that there are designers available whose creative work, it is to be hoped, will soon be evident in the industry.

### Spray gun

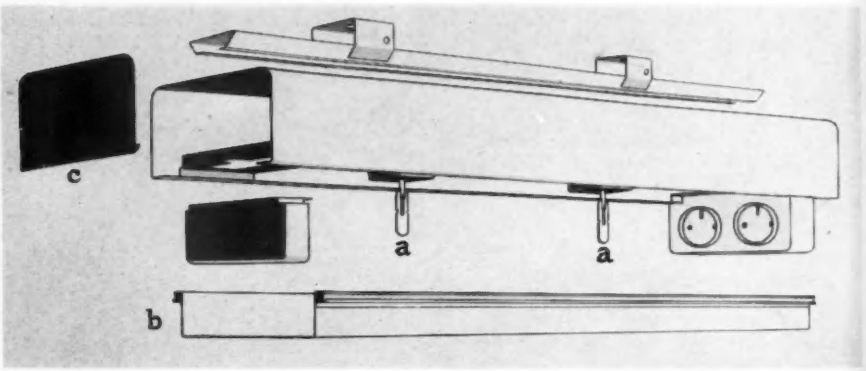
The main design considerations of the spray gun developed over the last two years by Alfred Bullows & Sons Ltd, for work where sensitivity and delicacy of control are necessary, were that it should give good handling and balance and be very light in weight to reduce operator fatigue, especially among female sprayers. These requirements were achieved in this robust instrument, which is an interesting illustration of the well known principle that good design is just as much a matter of technical knowledge as aesthetic sense. Here the approach has been uncompromisingly functional and the result is a business-like and efficient gun, which is also quite pleasing in form. There are however certain features such as the gland nut and associated mechanism which could perhaps have been improved in appearance without any loss in efficiency by a designer more sensitive to the aesthetic aspects of the problem.

The manufacturer claims that the trigger design is a major advance. The operator's index finger lies naturally along the full length of the trigger, giving precise and accurate control by very light pressure. The spray width can be quickly and accurately adjusted by a knurled control screw on

the side of the gun and a wide range of nozzles is available for most applications.

The gun can be pressure fed from a pressure container or gravity bucket and a similar model will operate from a syphon cup. The body is a duralumin forging with all wearing threads in brass inserts.

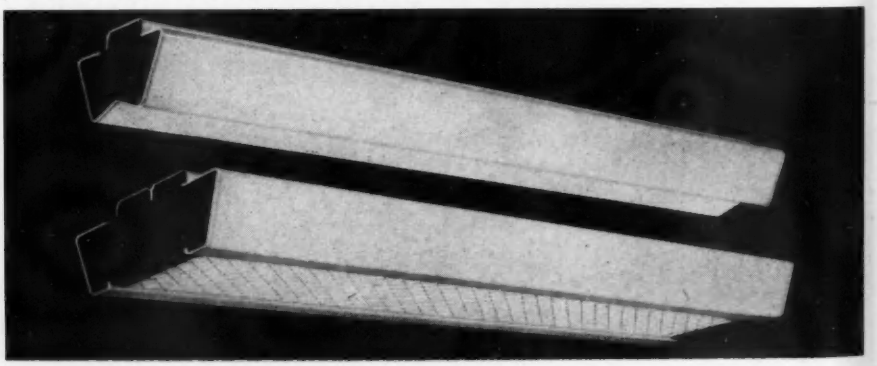
ERIC MARSHALL




### New range of lighting fittings

Thorn Electrical Industries Ltd has recently introduced a new range of fluorescent lighting fittings, designed by John Reid, in association with the 'Atlas' design department. The range is intended for industrial and commercial use, and consists of a series of basic units which can be built up to form about 400 different fittings.

A basic chassis to which one or two tubes can be fitted has been designed for the whole range, and this is available in 2-ft, 4-ft, 5-ft or 8-ft lengths. Either quick start or switch start control gear can be used and the chassis units may be placed together to form multiple fittings. Bi-pin tubes are used, and flicker shields are not required, as there is very little dark area when the tubes are placed end to end. The diagram above shows the component parts of the chassis. Reflectors are fitted over two thumb plates, *a*, which turn into a horizontal position to form a bar on which the reflectors rest. The 'Perspex' diffusers, *b*, have been designed so that they snap into position, and the end plates, *c*, can be easily removed if the fittings are to be mounted in continuous runs. Two of the many types of fittings that are available are illustrated below.



# NEWS

## CoID

### Honour for Scottish Committee member

It was announced in the New Year Honours List that a knighthood is to be conferred on Dr David S. Anderson, director of the Royal College of Science and Technology, Glasgow. Dr Anderson has been a member of the CoID Scottish Committee since 1953.

### The way to see TV

The number of homes in which the pattern of family life is controlled by television is increasing rapidly every month. Yet few living rooms are arranged in a manner which fully takes into account this important new influence. The CoID has therefore commissioned two designers, Natasha Kroll and Geoffrey Salmon, to create four different rooms designed specially to show how television can take its place as an integral part of the modern home. Two of these rooms will be shown as furnished settings in a special display at The Design Centre, opening on March 11; the other rooms being shown by means of large drawings. The exhibition will be linked with similar displays in retail furnishing stores in London and the provinces.

### RIBA honorary associates

W. J. Worboys, chairman, CoID and Sir Colin Anderson, a CoID member, have recently been elected honorary associates of the Royal Institute of British Architects.

### Gift for half millionth visitor

The half millionth visitor to The Design Centre last month was Joab Simon, accompanied by his wife. They chose a British Typewriters Ltd 'Empire Aristocrat' typewriter as a gift to mark the occasion. Mr and Mrs Simon come from Tel Aviv; Mr Simon is at present a student at the EMI College of Electronics.

## REPORTS & CONFERENCES

### Modular co-ordination in building

The report on modular co-ordination in building by a committee of representatives of 11 European countries, Canada and the USA, has been beautifully presented and is a model of clarity.

The British building industry and that of the other European countries is still based on traditional craftsmanship methods, using materials which have to be cut and fitted on the site. The constant increase in wages since 1939 has caused a very steep rise in the price of building due to the large labour costs involved.

The report examines the possibilities of standardising the dimensions of materials and components to bring down costs by simplifying production and fixing methods. A module of 10 cm is recommended for countries using the metric system and an eight-inch module for the foot/inch countries.

The possibilities of a future interchange of manufactured building products between the different countries will be greatly increased if the standard can be established. The prospect of an expanding export market for Britain is however marred by the fact that we still cling to the obsolete foot/inch measurement of dimensions.

The report is available, price 9s, from HM Stationery Office, Kingsway, London, WC2. G. F. HORSFALL

### The rehabilitation of the disabled

The report of the committee of inquiry on the rehabilitation, training and resettlement of disabled persons has recently been published (price 5s 6d from HM Stationery Office).

This report, the purpose of which was to find out whether existing schemes are doing their job without costing too much, throws interesting light on the functioning of Remploy Ltd, a non profit making company which employs 6,000 disabled in scattered small factories. It quotes the earlier Tomlinson Committee as saying that Remploy should make things in steady demand from government and public bodies. Enough of such work has not, it seems, been forthcoming, and it is easy to see why Remploy must be at a disadvantage with it. One is tempted to wonder whether the accent should not be (a) on design and (b) on skill; whether there should not be provision for lines of such quality that Remploy's name would be an indication of the highest worth and whether Remploy could not become the repository of rare traditional skills, now lacking apprentices to carry them on, such as gunsmithing, watch part making, harness making, lapidary work, or the making of shoes by hand.

C. G. TOMRLEY

### Chairs for churches

The illustration below shows a prototype chair which has recently been developed in the Rural Industries Bureau's workshop at Wimbledon Common. The chairs were produced under the supervision of the bureau's furniture maker and designer, C. C. Clarke, following enquiries by the Central Council for the Care of Churches into the availability of modern church furniture of high quality. The chairs are stackable, and are made in white ash, with a pocket for prayer books, etc, and the seat and top rail are in elm.

*The Society for Promoting Christian Knowledge has placed an order for 150 of these chairs developed at the Rural Industries Bureau, with Ian Audsley, the Sevenoaks furniture maker, for use in its headquarters at Holy Trinity, Marylebone.*

Further designs for church and domestic furniture are being prepared by the bureau, and will eventually form part of its design catalogue.

### Museums in Britain

'Museums and Adult Education', the report of a working party appointed by the National Institute of Adult Education has recently been published, and is available from the institute's headquarters, 35 Queen Anne St, London, W1, price 4s. The report points out that far more use could be made of museums today, and that the museums themselves could be more active in seeking out a wider public. Lack of funds hampers many museums, especially the smaller ones, and the report recommends that more adequate grants should be provided.

*The illustration shows part of a new museum and art gallery that has been opened recently in Hanley, Stoke-on-Trent, proving that there is not complete apathy towards the problems of museum design in Great Britain today.*

### Caravan trade convention

The National Caravan Council is holding its third annual trade convention at Brighton from March 12–15. The problems of the industry, including residential sites for caravans, will be discussed, and John Barnes, director, Allen-Bowden Ltd, will give a talk on 'Eye Appeal'.

## EXHIBITIONS

### Colour in Printing

This exhibition was misrepresented by the blatant invitation card, for the exhibits printed by W. S. Cowell Ltd of Ipswich certainly maintained the high reputation they deserve. Published to coincide with the exhibition were 'A Handbook of Type and Illustration' (reviewed on page 65), a pocket pack of 'Cowell's Colours' to simplify the customers' choice of colour, and two new titling alphabets – Tarquinius and Scintilla designed for Cowells by David Kindersley.

P.H.

### British Textiles

The 'British Textile Show' will be held at Earls Court from March 4–8; this will consist of four separate exhibitions – the 'National Men's and Boys Trade Fair', the 'British Cloth Fair', the 'National Household Textiles and Soft Furnishings Fair' and the 'National Carpet and Floor Coverings Trade Fair'.

*continued on page 59*

*announcing*

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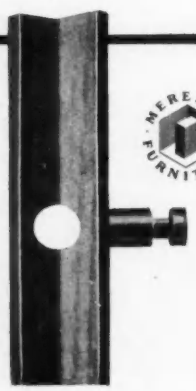

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### BIF at Birmingham

This year's BIF, the first to be held since the London section was closed, is being organised by the Birmingham Chamber of Commerce, and will be held at Castle Bromwich, Birmingham, from May 6–17. The exhibits will include products which have hitherto only been shown at the London BIF.

### Hardware trades show

The 'Hardware Trades Show' will be held in the Royal Horticultural Society's New and Old Halls, Westminster, from February 25–March 1.

### Display convention and exhibition

The 'Third National Display Convention and Exhibition', organised by the magazine 'Display', will be held in The Royal Horticultural Society's New Hall, Westminster, from April 8–11. A trophy will be awarded for the best exhibition stand.

## MISCELLANEOUS

### New editor of Penrose Annual

Allan Delafons has been appointed editor of 'Penrose Annual' in succession to the late R. B. Fishenden. Prior to this appointment Mr Delafons was managing editor of 'Coal', the employee magazine of the National Coal Board, and he has previously been editor of 'The Caxton Magazine' and of 'The Modern Lithographer and Offset Printer'.

### Appointment for DRU

Design Research Unit has been appointed consultant designer to Ever-Ready Razor Products Ltd, and will undertake an extensive redesign programme for the firm's products, packaging and presentation material.

### New components for lumenated ceilings

Lumenated Ceilings Ltd has recently introduced new aluminium framing and components for its architectural lighting system. This is part of a programme to co-ordinate the firm's lighting system, and to reduce the number of component parts.

### Filmstrips for furniture students

The Natural Rubber Development Board has issued a filmstrip 'Upholstering an easy chair with Latex foam'. The strip is intended primarily for furniture students and is available with a commentary in booklet form by Dennis Young from the board's headquarters at Market Buildings, Mark Lane, EC3.

### Electronic office equipment

Remington Rand Ltd has announced the formation of an Electronics Division. This has been done, the company states, because of the "immense potential in the field of electronic office equipment". C. W. Elliott, who joined the firm in 1952 has been appointed head of the new division.

### Danish silver for Goldsmith's Hall

A silver bowl, which was designed by the Danish sculptor Henning Koppel, and made by Georg Jensen Ltd, has recently been acquired by the Worshipful Company of Goldsmiths for its permanent collection of modern silver. This is the first foreign piece to be added to the collection.

### Changes of address

The address of Wilkes & Ashmore, the industrial designers, is now 5 The Causeway, Horsham, Sussex, telephone Horsham 4467.

The Institution of Chemical Engineers is now at 16 Belgrave Square, London, SW1, telephone Belgravia 3647.

The head office staff of the Mullard Organisation has recently moved to Mullard House, Torrington Place, London, WC1, telephone Langham 6633.

### New branch office

Henry Hope & Sons Ltd announces the opening of a new branch office at Brighton. Its address is J. J. G. Saunder & Sons Ltd, 5 Grand Parade, Brighton, telephone Brighton 61681.

## PUBLICATIONS

### Match making

Bryant & May Ltd has issued a booklet 'Match Making' describing how the firm's matches are made and packaged. The high standard of the booklet, designed and produced by Newman Neame Ltd, may well persuade Bryant & May Ltd to reconsider the design of its match box labels.

### BSI for fireguards

The British Standard specifications for fireguards for solid fuel fires have recently been published. The booklet is available, price 2s 6d, from the British Standards Institution, British Standard House, 2 Park Street, W1.

### Plastics booklet

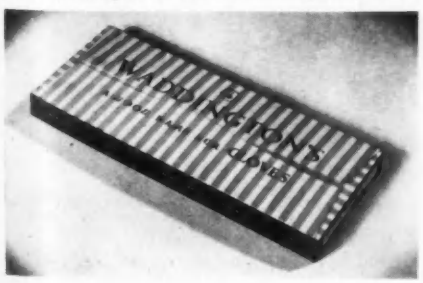
The three companies of the Distillers Plastics Group (British Resin Products Ltd, British Geon Ltd and Distrene Ltd) have issued a booklet 'Synthetic Resins and Plastics in Building and Construction'. This is available, free of charge, from: Information Department, Distillers Plastics Group, Devonshire House, Piccadilly, W1.

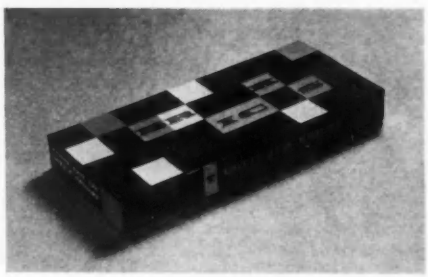
### Milk poster competition

*The results have recently been announced of the International Poster Competition which took place recently in Rome for the design of a poster to advertise milk and milk products. The illustration shows the design which was awarded the first prize in the 'Butter and Cheese' section. It is by the Dutch designer Peter Lem.*

### The paper box design contest

*The illustration shows two of the winning packs in the recent 'British Paper Box Design Contest'. The glove pack for G. Waddington & Son Ltd was designed by R. H. Talmadge Associates, and the brick box by students from the Maidstone School of Art. All the packs entered for the competition were on show at the 'Packaging Exhibition', which was held at Olympia last month.*



## LETTERS

### Aerodynamics versus aesthetics

SIR: The views put forward by John E. Blake on car design (DESIGN August 1956 pages 13–24) are in my opinion quite untenable, and I am horrified that they should be advanced in a periodical which professes to regard functional design as "essential", to use your own term. The designs praised are not functional in one important aspect, and I should like to recall your July editorial which stated that "Fitness for purpose ..... remains an important plank in (CoID) policy".

Now the function of a car is to convey people and their luggage. To do this it must move along roads, and *through the air*. The technical term to describe the shape of an object "calculated to have least resistance to motion" (OED) is 'streamlined'. It is this quality

*continued on page 61*

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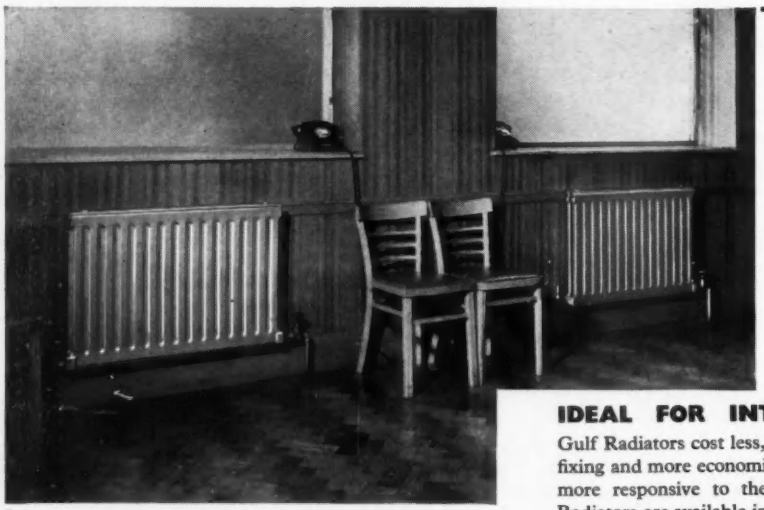

**Industrial Newspapers Ltd.,** *have also installed Gulf long life radiators throughout their new building, John Adam House. The illustration above shows two panel radiators at one end of the Boardroom.*

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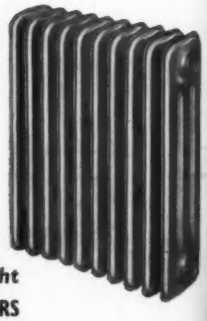

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# LETTERS

which Ford cars, in common with all others from big British firms, conspicuously lack.

The original 'Consuls', etc were not good in this respect, and the later models get progressively worse. The smooth flowing lines of, to quote Mr Blake, "the sucked sweet, or the melting ice cream" and rejected by him, do, in fact, closely approach perfection.

It is perhaps only fair to say that many aspects of Ford design are commendable; for example, the sill on the boot lid of the new range will clearly prevent water from dripping into the boot, and more generally, the cars possess an elegance of line quite lacking in the Austin or Morris ranges. Unfortunately it is the wrong line.

The most recent article I have seen on car aerodynamics ('The Aerodynamics of Car-Body Shapes', 'Engineers Digest 10', October 1956 page 427) shows that the present flat-top design, as exemplified by Ford, having an air resistance at 37 mph approximately equal to other resistances, has *twice* the air resistance of an approximately streamline shape.

To the best of my knowledge the best examples of streamline form, among commercial saloon cars, are the Porsche, and the Alfa-Romeo 'Giulietta'. The Bristol is one of the few British cars to have been in a wind tunnel. Also wind tunnel tested is the Renault 'Dauphine', which is unusually fast for its engine size, as well as economical. The smooth curves of the latter make a particularly interesting contrast with the "refined" rectangular box that is the 'Prefect', especially when it is borne in mind that the Ford requires an engine one and a half times as big and uses quite one and a quarter times as much fuel for a comparable performance.

Need British stylists concentrate on aesthetics to the exclusion of aerodynamics?

D. C. PRESSEY
Park Gate
Bagshot
Surrey

*We asked Colin Neale, who is Ford's chief stylist, to comment on the points raised in Mr Pressey's letter.*

"Your correspondent suggests that aerodynamics has not been properly considered in the design of this new Ford range. Many factors have to be taken into account when designing a vehicle and the final result is always a compromise between conflicting requirements.

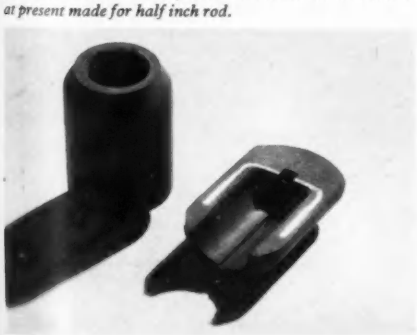
"We have to design a car to a specified performance accommodation and *cost*. Any style can be superimposed upon the basic skeleton or 'package layout' in which all mechanical components, living and luggage space, etc have been worked out. But if the body is to be functional it must, besides giving adequate shoulder room, ground clearance, headroom, access and so on, help to reduce costs. It can do this in two ways – either by being aerodynamic in shape which through reduced air resistance assists economy in *running* costs, but results in a lazy flowing silhouette; or by being *compact* in shape which results in a reduction of the quantity of material used and is therefore lighter. This weight reduction produces a big saving in *prime* cost (because weight and cost are directly proportional for a given material) and at the same time helps to reduce running costs. Air resistance can also be reduced in a compact body by keeping the projected frontal area as small as possible.

"Clearly these two approaches to body design are incompatible. The latter is the compromise which enables us to keep within our cost target and is the result which you see on the roads.

"These comments, of course, only scratch the surface of the subject but serve to substantiate the logic behind the basic proportions of our current range. Your correspondent seems to have missed the point of John Blake's article which was to show how this logical basic concept had been expressed in a satisfying sculptural form. I would like to add that as soon as engineering developments such as retractable headlamps and smaller mechanical units enable us to re-proportion the 'package' of the future, we shall be able to achieve more aerodynamic forms."

## Ferrules for furniture legs

*To prevent solid rod furniture legs penetrating rubber ferrules, Guy-Raymond Engineering Co Ltd has developed a steel reinforced rubber cap, shown below. The ferrule is moulded in one piece with the metal insert and is at present made for half inch rod.*



## Product design analysis appreciated

SIR: Having recently read L. Bruce Archer's article 'Analytical methods for product designing' (DESIGN Sept 1956 pages 29–33), I should like to tell you that I find the methods he describes very useful. I know that this is not a new method, but the article and the illustrations approach the subject from a new point of view. Therefore I very much appreciated the article and I do hope I will be able, together with my students, to make use of the analytical methods on an unpretentious scale here at the 'Konstfackskolan', where I work as the head of the department for furniture and interior design.

CARL-AXEL ACKING
40 Regeringsgatan
Stockholm

## Where are British scooters?

SIR: We have read with interest the article 'Where are British scooters?' (DESIGN October 1956 pages 22–27). This is a subject that is impossible to cover fully in a short letter, but as far as this firm is concerned we are able to say that the gain in popularity of the scooter has not been overlooked, but in common with other British manufacturers we have been loath to enter into a field which in some respects differs very much from the motor cycle industry as it is known today.

Our own contribution to clean and comfortable two-wheeled transport is the LE model, and we consider this to be superior to many of the scooter designs because it provides just as good weather protection

*The 'Velocette' LE model, discussed by Mr Goodman in his letter below.*

but with a much smoother and practically vibration free engine, and as the wheels are larger than the majority of scooters the steering is good by motor cycle standards, and this cannot be said of the majority of small wheeled scooters.

There is, of course, another aspect, and that is the very great outlay on tools and equipment that would be necessary to embark on the production of an entirely new machine embodying a lot of press work as is the case with the majority of scooter designs

We are finding a steady market for the LE, and a lot of our new customers are ex-scooter owners who, having found the disadvantage of the small wheels etc, for anything except fairly short journeys, have come over to the LE, as being the ideal solution for both town work and long distance running, including Continental touring.

E. F. GOODMAN
Managing director
Veloce Ltd
Hall Green Works
Birmingham 28

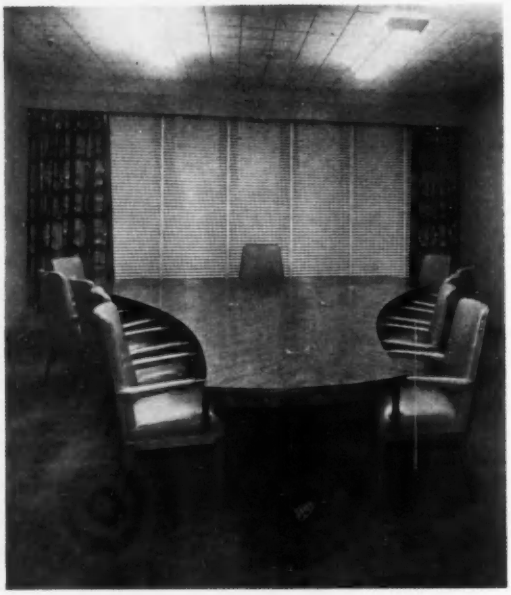
## Standardisation of domestic appliances

SIR: At the recent Design Congress organised by the CoID, I raised the question of standardisation of components in the domestic appliances industry. It was suggested by one speaker that standardisation would stultify design. I fail to see why this should be so, but I do see considerable advantages to marketing and servicing organisations and customers, and a consequent reduction in cost.

May I refer first to domestic cooking appliances. The structure of the human hand and its movement in turning on a thumbpiece is almost universal. The Gas Council has laid down certain general requirements for the direction of operation of taps of various types, ie vertical plug or horizontal plug type tap and so therefore most interpretations of a thumbpiece design for a given type of tap will tend toward similarity. The cost of a six impression mould for a plastic thumbpiece is extremely high, and yet there is a multiplicity of thumbpieces on the market. Obviously if the industry could move toward an agreeable standard design, little would be lost, but I submit that the saving would be worthwhile.

Grill frets form an expendable part of a gas cooker, and few are interchangeable between cookers. The

*continued on page 63*



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function of a grill is substantially the same on most cookers, size being the usual variable – admittedly the overhead grill represents a slight complication; again I suggest that agreement on a standard range of grill frets would be extremely valuable.

The electrical appliance industry has a very obvious field for standardisation. A particular manufacturer of elements lists in his catalogue 18 iron elements of 450/500 watt loading, 24 iron elements of 750 watt loading, 32 toaster elements and no less than 87 electric fire pencil elements of loadings between 600 watts and 1000 watts including three different types of end fittings.

This list requires no comment – there are similar cases which could be quoted.

I must stress that I do not advocate compulsory adherence to any standard design. We must be safeguarded against stultification of design in the aesthetic or technical sense, and manufacturers must be free to introduce improvements as and when necessary.

There are obvious technical difficulties implicit in my proposals, but I am convinced that a determined attempt to reclaim this jungle of component confusion would be to the ultimate advantage of all concerned.

D. MIDDLETON
Development Manager
John Harper & Co Ltd
Willenhall
Staffs

### Good design in Britain and America

SIR: In the correspondence columns of your last month's issue (DESIGN January 1957, page 63), R. G. K. Anson makes a series of challenging statements in the form of questions which are very sweeping in their assumptions. His letter creates an impression, unintentionally no doubt, that all levels of American consumer goods are uniformly good in design and inexpensive in price. This is not so. The American domestic market offers just as high a proportion of 'design horrors' as our own; but, at the same time, it must be admitted that many well designed American products receive widespread publicity in magazines which have a distribution field of immense size among a population of 160 million. This is a great advantage to designers who work for an industry which is primarily concerned with mass production. Mass production and distribution on the American scale inevitably breed early obsolescence and the result is that changes of design are necessarily more frequent – to the advantage of professional designers. Designing for the British export market which caters for world trade is bound to be a more intricate business than designing for one market such as the American. A large catalogue could be compiled of native influences and preferences: climatic and racial factors, shipping and packing requirements – and so forth. All those, and others, have to be taken into account by manufacturers who wish to launch a new design on a world market. It is not, therefore, our own domestic demand which is the sole factor in influencing design of goods destined for the export market.

Mr Anson appears to underestimate the demand in our own country for good new designs, but a careful scrutiny of British magazines should convince him that many manufacturers are well aware of this. I believe he would also become convinced that British magazines are very active in popularising editorially the whole concept of good design in the home. The Design Centre fills a long wanted need in presenting the best of new design direct to the shopping public; and its influence is certain to be a profound and potent one. And, in a comparatively short time, it has already become a centre which is permanently on the visiting list of overseas buyers. Americans, in particular, who are perenially hungry for new items are already treading out a well worn path to the Haymarket.

The mass publicising of American mass produced goods has the effect of imposing a sameness of selection in American stores which, in turn, is stimulating demand for foreign made products of good design. Two principal requirements are therefore called for by American visiting buyers; a steady flow of new and changing design and the maintenance of high quality of manufacture.

H. G. WONNACOTT
London Manager
Associated Merchandising Corporation
62 Brook Street
London W1

## BOOKS

**This is Japan,** *Asahi Shimbun, Yuraku-Cho, Chiyoda-ku, Tokyo, Japan,* £2 12s

It is an established custom of the large Japanese dailies to engage in a wider range of activities than our newspapers undertake. Somehow money is found to subsidize art exhibitions from abroad and to bring over musicians, scientists, sportsmen and others, and also to publicize Japan by such sumptuous volumes as this.

It is in English (reasonably good English, one notes with relief), and runs to 350 large pages of excellent photographs and many fine colour plates with informative and sometimes discriminating short articles by both Westerners and Japanese. I recommend particularly, 'The Spirit of Zen' by M. Hauchecorne and 'In praise of Japanese food' by M. Guillain and the article by Kenichi Yoshida, 'The head bowed in drink'.

But an attempt to portray so many sided a subject as this furthest and most different of all countries in a single book is bound to result in a crowded series of glimpses as confusing as the memory of a conducted tour of a museum.

It is natural that stress should have been laid upon progress on the one hand and upon famous examples of art and scenery on the other, but much has been omitted which is both timeless and Japanese. That which the Japanese people have extracted from their particular experience of life is of most ultimate value to the rest of mankind. There is but scant mention of their old or of their newer religious philosophy, of all the arts and crafts which had their roots in Zen Buddhism, of the 'spirit of tea', the 'no drama', of the 'control of the outer by the inner'.

The emphasis is too much upon what Japan can do on our lines and not sufficiently upon what Japan can do with the power of her own inherited originality to absorb and to digest and alter to her needs that which she is learning so fast and so avidly from us. It is a great deal to ask in so short a time.

In fact history shows that such interchanges of culture require centuries. This volume makes one aware of a driving necessity for the Japanese mind, after total and unexpected defeat, to show the rest of the world that Japanese people can live as we do. It is one way of getting rid of a natural inferiority complex.

BERNARD LEACH

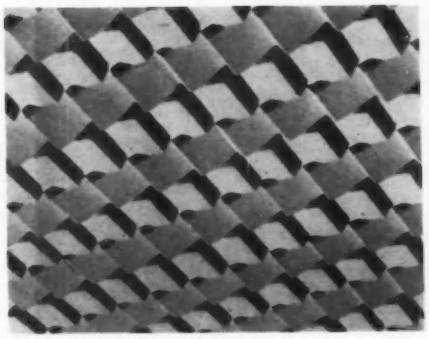
**Mobili Tipo,** *Roberto Aloi, Hoepli, Milan, and Alec Tiranti, London,* £3 4s

This book is an international survey in pictures of a wide range of modern furnishings for a variety of contexts, from public buildings and transport to the kitchenette of a small flat. It is prefaced by Agnoldomenico Pica with an impressive argument for the acceptance of industrial design as a valid contribution to contemporary art. On this subject he claims that

*continued on page 65*

### New shop in Manchester

*Jaeger Co Ltd has opened a new branch in Manchester. The interior has been designed by Dennis Lennon, who recently redesigned the Regent Street branch; the illustration shows a bay at the head of the stairs leading to the first floor.*



**New textures for ceilings**

*The illustration shows one of a new range of ceiling panels recently produced by Hills (West Bromwich) Ltd. These are made of pre-cast gypsum plaster and are available in modules of 20 square inches. Other effects, including perforated ceilings, are available.*

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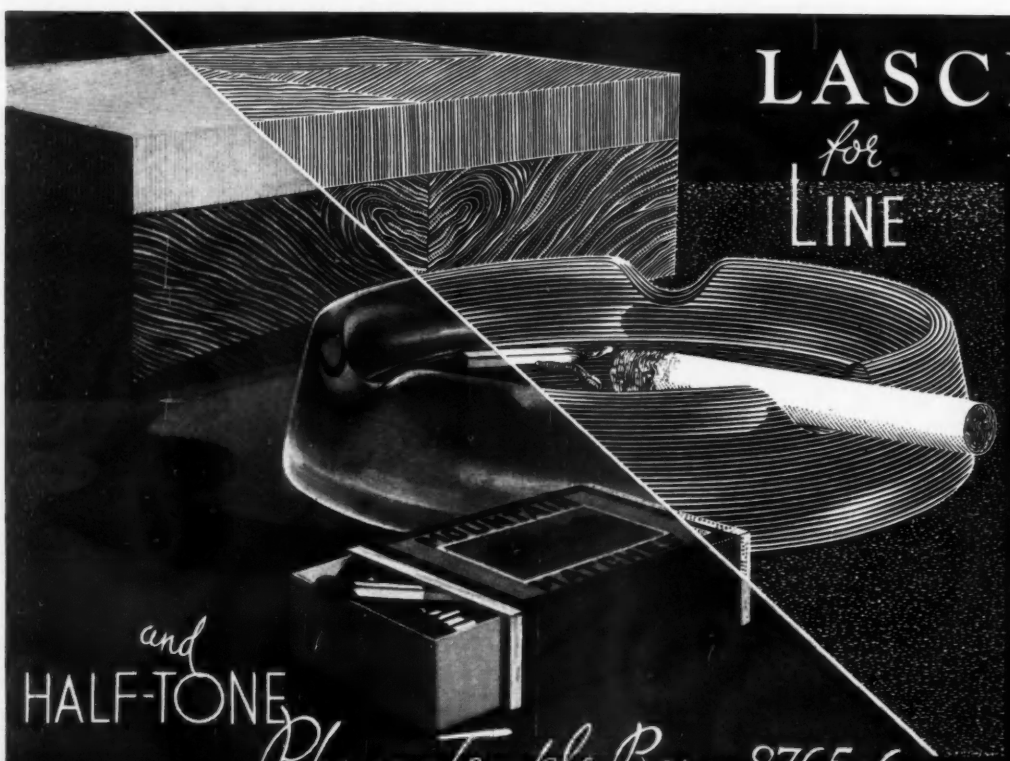

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# BOOKS

there are two kinds of snob; those who denounce as worthless all forms of standardisation; and those of the *avant garde* who refuse to accept any form of design which is not capable of production in series. The preface is mostly concerned with disposing of the first of these ideas.

Signor Pica argues his point by insisting that classical architecture for which this group has such respect, is essentially modular, in that it relies on the repetition of certain standardised units; a point which the 1940 'Triennale' set out to demonstrate. To those who object to production in series and say that the designer's imagination is restricted by the process, he retorts that reproduction in quantity is hardly a restriction to the basic design. The process allows great freedom in designing and the standardisation is reflected only in the likeness of the products from the same design. He claims there is as much variety in the design of mass produced chairs as in hand made chairs. Thus he also disposes of the objection that production in series imposes monotony on interior design, into which he believes endless permutations can be introduced. This he says was clearly demonstrated at the tenth 'Triennale', when an essentially 'U' interior was created entirely with standardised products.

Credit for enlightened exploitation of mass production is given, amongst others, to Robin Day and Ernest Race, whose work is included in this book. Britain is well represented in the illustrations – which have relied heavily on the CoID photo library – and the whole collection gives a most useful impression of some of the best and most progressive work which is being done in Europe (with a natural bias to Italy), and America. There are over 300 pieces illustrated, and most of them reflect the attitude of the preface.

The main text is in Italian, but there is an appendix which gives an English version of the captions. The translation, although not always accurate (*massiccio* surely means solid not massive in this context), is rarely misleading and sometimes charming – "superposable chairs" and "kind concession to CoID".

Those who enjoy parlour games can amuse themselves by flicking through these pages and guessing without looking at the captions the national origin of the pieces. Although the overriding impression is of an international style, one can be right surprisingly often, although not many will get a double such as "designed Ilmari Tapiovaara, made Consorzio Esposizione Mobili". J.N.W.

**A Handbook of Type and Illustration,** *John Lewis, Faber & Faber Ltd,* £1 10s

There has been a spate of books lately dealing with book design and methods of graphic reproduction, and 'A Handbook of Type and Illustration' by John Lewis is an excellent addition to the literature on the subject. Illustrators who have no background of practical training in type and processes – and the majority still unfortunately have not – will find this book particularly helpful in overcoming their handicap.

It deals comprehensively with the production of illustrated books, from choice of type and processes to binding and jacket design. The author's experience has enabled him to select those practical considerations that make for economical production and ensure that the artist's intentions can be carried out. The facts he gives under the heading of 'Production Data' are as useful as they are hard to come by.

**Students' calendar**

*This desk diary and calendar has been produced by students at the Wolverhampton College of Art. It contains six colour line illustrations of freshwater fish and the type of bait and tackle recommended for landing them. The design and illustrations were conceived in the commercial design department at the college, and the printing was carried out by apprentices and students in the department of printing.*

The methods of production are limited to those that W. S. Cowell Ltd, the firm of which Mr Lewis is art director, is equipped to deal with. Each process is described and has a full page illustration opposite a page of text set in an appropriate face. These are lively and sometimes unusual juxtapositions, like the Bawden colour linocut with text in 18pt Albertus. There are 40 or so pages of text settings of the dozen type faces under consideration, and the author notes the best sizes and the suitability of each for various purposes.

This is a gay and admirably produced book that fully exemplifies the author's precepts and the printer's ability to put them down on paper. STANLEY HICKSON

**Electronic Computers, principles and applications,** *edited by T. E. Ivall, Iliffe & Sons Ltd,* £1 5s

Those who are interested in what computers can do, and those who want to know how they do it, should know of this book. The chapters on general principles and applications can be understood by all who are familiar with the simple arithmetic that digital and analogue computers can perform. The chapters on computer circuits are not mathematical but assume some electrical knowledge. The electrical and electromechanical devices which are used for storage of numbers and for calculation are described in some detail and the important differences between computer electronics and conventional electronics are made clear. The book is compiled from articles by various expert contributors to the magazine 'Wireless World'.

J. CHRISTOPHER JONES

**The Carpet Annual 1956/7,** *edited by H. F. Tysser, British-Continental Trade Press Ltd,* £1

The survey which 'The Carpet Annual' undertakes gives a very informative picture of the world trade in carpets. As the major exporter of machine produced carpets, the British industry is subject to every sort of influence and even the last six months have seen really important changes.

The rapid development of tufted carpet production, the growing interest in the use of man-made fibre blends, the tendency of the industry towards active promotion and advertising are all trends that are noted. Very much related is the large section illustrating almost a design revolution in the industry. The timid section on modern design of a few years ago has now become a central feature called 'Middle of the road contemporary', while a follow on is provided for *avant garde* designs.

It is good to note that while some interesting foreign designs are shown, the level of new thought indicated by the British illustrations compares very favourably with those from abroad. D. JOHNSTON

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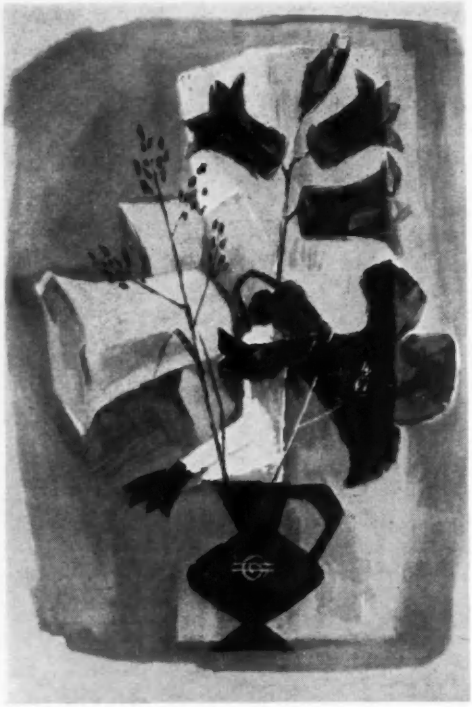

*'Spring', a poster designed for London Transport by Hans Unger. It is one of the series of full colour prints of famous London Transport posters, which includes the work of Edward Bawden, A.R.A., John Minton, Ivon Hitchens and many others. The average size of the prints is 6" x 5". They can be obtained, price 1s. each (postage 3d.) from the Publicity Officer, London Transport, 55 Broadway, Westminster, S.W.1.*

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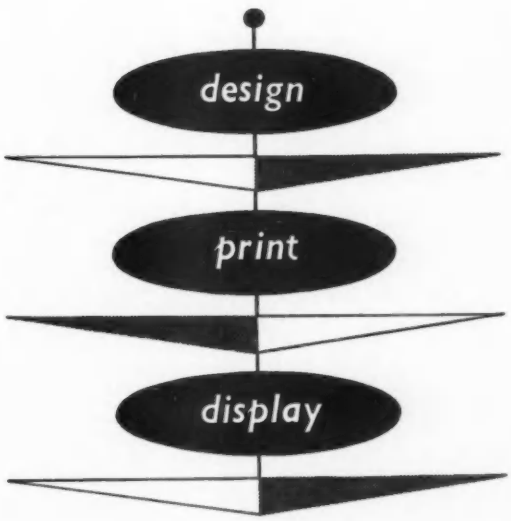


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